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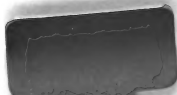
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Brydson

**A GENERAL
SYSTEM OF NATURE.**

VOL. I.

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Printed by Dewick & Clarke,
Aldersgate-street.

**A GENERAL
SYSTEM OF NATURE,
THROUGH THE
THREE GRAND KINGDOMS
OF
ANIMALS, VEGETABLES, AND MINERALS,
SYSTEMATICALLY DIVIDED
INTO THEIR SEVERAL
CLASSES, ORDERS, GENERA, SPECIES, AND VARIETIES,
WITH THEIR
HABITATIONS, MANNERS, ECONOMY, STRUCTURE,
AND PECULIARITIES.**

BY SIR CHARLES LINNÉ:

Translated from GMELIN, FABRICIUS, WILLDENOW, &c.

TOGETHER WITH

**Various Modern Arrangements and Corrections, derived from the
Transactions of the Linnean and other Societies, as well as from the Classical
Works of Shaw, Thornton, Abbot, Donovan, Sowerby, Latham, Dillwyn,
Lewin, Martyn, Andrews, Lambert, &c. &c.**

WITH A LIFE OF LINNÉ,

**Appropriate Copper-plates, and a Dictionary explanatory of the Terms which
occur in the several Departments of Natural History,**

BY WILLIAM TURTON, M. D.

Fellow of the Linnean Society, Author of the Medical Glossary, &c. &c.

IN SEVEN VOLUMES.

**Animal Kingdom.—VOL. I.
MAMMALIA. BIRDS. AMPHIBIA. FISHES.**

**LONDON:
PRINTED FOR LACKINGTON, ALLEN, AND CO.
TEMPLE OF THE MUSES, FINSBURY-SQUARE.**

1806.

TO

RICHARD CRAWSHAY, *Esq;*

OF CYFARTHFA IRON-WORKS,

Who, in applying the Materials of Nature
to the Purposes of Life and the Uses of
Society, has best answered the Ends of
Science, and advanced its Interests:

THIS WORK IS DEDICATED,

BY

HIS SINCERE FRIEND,

AND HUMBLE SERVANT,

WILLIAM TURTON.

SWANSEA, *May* 21, 1800.

P R E F A C E.

MAN, always curious and inquisitive, and ever desirous of adding to his useful knowledge; among other sources of amusement and instruction, is naturally led to contemplate and to enquire into the works of nature. He looks with grateful reverence upon those vast families of created beings, which it has pleased the Author of all things to place subordinate to his wisdom and power: he examines, with wonder, their formation, habits, and economy; and hears, with delight, the narrations of those, who have sought after the natural curiosities of distant countries.

That this beautiful and inviting study may be facilitated; and that the whole of the productions and inhabitants of this our globe, may be arranged and conveniently exhibited, systems have been invented, reducing them to their several kingdoms, classes, tribes, families, and individuals; with their names, habitations, manners, economy, and appearance. These have enjoyed their various degrees of repute and excellence; but the amazing comprehension, learning and labour of the celebrated Sir CHARLES LINNE, has produced a system so clear and simple, so compendious and accurate, that the lover of Natural History may directly discover the name and the properties of whatever subject may fall in his way, or he may chuse to investigate.

In

In systematic arrangement, the student has this peculiar advantage, that by immediately arriving at the name, the whole of its known qualities are immediately displayed to him: but without a systematic classification, he wanders in obscurity and uncertainty, and must collect the whole of its habits and peculiarities, before he can ascertain the individual he is examining.

The traveller, for example, who wishes to collect the more curious subjects of natural history, finds a bird, whose name, habits, and economy, he is desirous of investigating: from its conic, sharp-pointed bill, slender legs, and divided toes, he finds that it belongs to the order Passeres; and from its thick, strong, convex bill, with the lower mandible bent in at the edges, and the tongue abruptly cut off at the end, he refers it to the genus *Loxia* or Grosbeak; and running his eye over the specific differences, he immediately determines it, from its exactly answering the specific character "Body above brown, beneath yellowish-white; crown and breast pale yellow; chin brown," to be the Philippine Grosbeak, (*Loxia Philippina*;) a little bird which he finds is a native of the Philippine islands, and endowed by nature with instinctive notions of preservation and comfort, nearly approaching to human intelligence; that it constructs a curious nest with the long fibres of plants or dry grass, and suspends it by a kind of cord, nearly half an ell long, from the end of a slender branch of a tree, that it may be inaccessible to snakes, and safe from the prying intrusion of the numerous monkeys which inhabit those regions: at the end of this cord is a gourd-shaped nest, divided into three apartments, the first of which is occupied by the male, the second by the female, and the third containing the young; and in the first apartment, where the male keeps watch while the female is hatching, is placed, on one side, a little tough clay, and on the top of this clay is fixed a glow-worm to afford its inhabitants light in the night time.

That the English student may be put in possession of this vast treasure, comprehending and illustrating all nature through the three kingdoms of animals, vegetables and minerals; I have undertaken a translation from the last edition of the *SYSTEMA NATURÆ* of LINNÆ, by GMELIN, amended and enlarged by the improvements and additions of later naturalists.

The expediency of this translation has long been acknowledged, and the want of it often lamented; and it has been a principal view of the Editor, to deliver it in as intelligible and as useful a form as the nature of such a work will admit. The Linnæan terms are rendered as nearly as possible to the idiom of the English language; and a general explanatory Dictionary of such as are peculiarly appropriate to the science, is affixed to the last volume. And for the conveniency
of

of such as wish to become acquainted with the productions of their own country, the different subjects of Natural History, hitherto found in Great-Britain, will be pointed out by an asterisk.

In the Ornithological department, I have been chiefly assisted by the works of Dr. LATHAM; in Entomology, by the last edition of the System of FABRICIUS; in that of Vegetables, by the Species Plantarum of the learned and diligent WILLDENOW; and in all by the accurate Dr. SHAW, in his elegant and beautiful publication, the Naturalist's Miscellany.

The numerous synonyms and references I have omitted; as they would so considerably have enlarged the bulk of the work, without adding a proportionate value. The various subjects of Natural History are so accurately described, that no doubt can remain as to the individual.

The traveller who has leisure and inclination to be acquainted with this charming science, who may find it necessary to determine what animals are fit for food, and what are poisonous, or who may wish to add whatever new materials may occur to him; the collector of such subjects as are valuable either for their beauty or their rarity, and who may wish to arrange his cabinet according to the laws of nature and science; and the retired and private individual, who may desire to fill his vacant hours with a natural knowledge of the various objects around him, must, except they be well acquainted with the Latin language, and the technical terms peculiar to the science, be for ever ignorant of the means by which this information may be best obtained.

Had Natural History been more scientifically known, MILTON would not have described the Whale as a scaly animal, nor the Snake as having a hairy mane: nor would the arms of many of our Nobility have been supported by the representations of compound animals, existing only in the imagination of fanciful dreamers.

The advancement of agriculture, and most of our arts and manufactures, must depend in no small measure upon our comparative knowledge of Natural History, particularly of Chemistry and Botany; and these will unquestionably become enlarged as this science is more studied, and more known.

The Editor therefore hopes, that in delivering this work in the English language, he is adding something to the stock of innocent amusement, and something to general utility.



INTRODUCTION.

MAN, when he enters the world, is naturally led to enquire who he is; whence he comes; whither he is going; for what purpose he is created; and by whose benevolence he is preserved. He finds himself descended from the remotest creation; journeying to a life of perfection and happiness; and led by his endowments to a contemplation of the works of nature.

Like other animals who enjoy life, sensation, and perception; who seek for food, amusements, and rest, and who prepare habitations convenient for their kind, he is curious and inquisitive: but, above all other animals, he is noble in his nature, in as much as, by the powers of his mind, he is able to reason justly upon whatever discovers itself to his senses; and to look, with reverence and wonder, upon the works of Him who created all things.

That existence is surely contemptible, which regards only the gratification of instinctive wants, and the preservation of a body made to perish. It is therefore the business of a thinking being, to look forward to the purposes of all things; and to remember that the end of creation is, that God may be glorified in all his works.

Hence it is of importance that we should study the works of nature, than which, what can be more useful, what more interesting? For, however large a portion of them lies open to our present view; a still greater part is yet unknown and undiscovered.

All things are not within the immediate reach of human capacity. Many have been made known to us, of which those who went before us were ignorant; many we have heard of, but know not what they are; and many must remain for the diligence of future ages.

It is the exclusive property of man, to contemplate and to reason on the great book of nature. She gradually unfolds herself to him, who with patience and perseverance, will search into her mysteries; and when the memory of the present and of past generations shall be entirely obliterated, he shall enjoy the high privilege of living in the minds of his successors, as he has been advanced in the dignity of his nature, by the labours of those who went before him.

Vol. I.—B

The

The UNIVERSE comprehends whatever exists; whatever can come to our knowledge by the agency of our senses. The *Stars*, the *Elements*, and this our *Globe*.

The STARS are bodies remote, lucid, revolving in perpetual motion. They shine, either by their own proper light, as the *Sun*, and the remoter *fixed Stars*; or are *Planets* receiving light from others. Of these the primary planets are solar; *Saturn*, *Jupiter*, *Mars*, the *Earth*, *Venus*, *Mercury*, and *Georgium Sidus*; the secondary are those subservient to, and rolling round the primary, as the *Moon* round the earth.

The ELEMENTS are bodies simple, constituting the atmosphere of, and probably filling the spaces between the stars.

Fire; lucid, resilient, warm, evolant, vivifying.

Air; transparent, elastic, dry, encircling, generating.

Water; diaphanous, fluid, moist, gliding, conceiving.

Earth; opaque, fixed, cold, quiescent, steril.

The EARTH is a planetary sphere, turning round its own axis, once in 24 hours, and round the sun once a year; surrounded by an *atmosphere* of elements, and covered by a stupendous crust of *natural bodies*, which are the objects of our studies. It is *terraqueous*; having the depressed parts covered with waters; the elevated parts gradually dilated into dry and habitable continents. The *land* is moistened by *vapours*, which rising from the waters, are collected into *clouds*: these are deposited upon the tops of mountains; form small *streams*, which unite into *rivulets*, and reunite into those ever-flowing *rivers*, which pervading the thirsty earth, and affording moisture to the productions growing for the support of her living inhabitants, are at last returned into their parent *sea*.

The study of natural history, simple, beautiful, and instructive, consists in the collection, arrangement, and exhibition of the various productions of the earth.

These are divided into the three grand kingdoms of nature, whose boundaries meet together in the Zoophytes.

MINERALS inhabit the interior parts of the earth in rude and shapeless masses; are generated by salts, mixed together promiscuously, and shaped fortuitously.

They are bodies *concrete*, without life or sensation.

VEGETABLES clothe the surface with verdure, imbibe nourishment through bibulous roots, breathe by quivering leaves, celebrate

brate their nuptials in a genial metamorphosis, and continue their kind by the dispersion of seed within prescribed limits.

They are bodies *organized*, and have *life* and not sensation.

ANIMALS adorn the exterior parts of the earth, respire, and generate eggs; are impelled to action by hunger, congeneric affections, and pain; and by preying on other animals and vegetables, restrain within proper proportion the numbers of both.

They are bodies *organized*, and have *life*, *sensation*, and the power of loco-motion.

MAN, the last and best of created works, formed after the image of his Maker, endowed with a portion of intellectual divinity, the governor and subjugator of all other beings, is, by his wisdom alone, able to form just conclusions from such things as present themselves to his senses, which can only consist of bodies merely natural. Hence the first step of wisdom is to know these bodies; and to be able, by those marks imprinted on them by nature, to distinguish them from each other, and to affix to every object its proper name.

These are the elements of all science; this is the great alphabet of nature: for if the name be lost, the knowledge of the object is lost also; and without these, the student will seek in vain for the means to investigate the hidden treasures of nature.

METHOD, the soul of Science, indicates that every natural body may, by inspection, be known by its own peculiar name; and this name points out whatever the industry of man has been able to discover concerning it: so that amidst the greatest apparent confusion, the greatest order is visible.

SYSTEM is conveniently divided into five branches, each subordinate to the other: *class*, *order*, *genus*, *species*, and *variety*, with their names and characters. For he must first know the name who is willing to investigate the object.

The science of nature supposes an exact knowledge of the nomenclature, and a systematic arrangement of all natural bodies. In this arrangement, the *classes* and *orders* are arbitrary; the *genera* and *species* are natural. All true knowledge refers to the species, all solid knowledge to the genus.

Of these three grand divisions the *animal* kingdom ranks highest in comparative estimation, next the *vegetable*, and the last and lowest is the *mineral* kingdom.

ANIMALS.

ANIMALS enjoy *sensation* by means of a living organization, animated by a medullary substance; *perception* by nerves; and *motion* by the exertion of the will.

They have *members* for the different purposes of life; *organs* for their different senses; and *faculties* or powers for the application of their different perceptions.

They all originate from an *egg*.

Their external and internal structure; their comparative anatomy, habits, instincts, and various relations to each other, are detailed in authors who professedly treat on these subjects.

The natural *division* of animals is into 6 *classes*, formed from their internal structure.

Heart with 2 auricles, 2 ventricles; blood warm, red.	}	viviparous.	MAMMALIA.	1.
		oviparous.	BIRDS.	2.
Heart with 1 auricle, 1 ventricle; blood cold, red.	}	lungs voluntary.	AMPHIBIA.	3.
		external gills.	FISHES.	4.
Heart with 1 auricle, ventricle 0; sanies cold, white.	}	have antennæ.	INSECTS.	5.
		—tentacula.	WORMS.	6.

I. MAMMALIA. *Lungs* respire alternately; *jaws* incumbent, covered; *teeth* usually within; *teats* lactiferous; *organs* of sense, tongue, nostrils, eyes, ears, and papillæ of the skin; *covering*, hair, which is scanty in warm climates, and hardly any on aquatics; *supporters*, 4 feet, except in aquatics; and in most a *tail*; *walk* on the *earth*, and *speak*.

II. BIRDS. *Lungs* respire alternately; *jaws* incumbent, naked, extended, without teeth; *eggs* covered with a calcareous shell; *organs* of sense, tongue, nostrils, eyes, and ears without auricles; *covering*, incumbent, imbricate feathers; *supporters*, feet 2, wings 2; and a heart-shaped rump; *fly* in the *air*, and *sing*.

III. AMPHIBIA. *Jaws* incumbent; *penis* (frequently) double; *eggs* (usually) membranaceous; *organs* of sense, tongue, nostrils, eyes, ears; *covering*, a naked skin; *supporters* various, in some 0; *creep* in warm places and *hiss*.

IV.

- IV. FISHES. *Jaws* incumbent; *penis* (usually) σ ; *eggs* without white; *organs* of sense, tongue, nostrils? eyes, ears; *covering*, imbricate scales; *supporters*, fins; *swim* in the water, and *smack*.
- V. INSECTS. *Spiracles*, lateral pores; *jaws*, lateral; *organs* of sense, tongue, eyes, antennæ on the head, brain σ , ears σ , nostrils σ ; *covering*, a bony coat of mail; *supporters*, feet, and in some, wings; *skip* on dry ground, and *buzz*.
- VI. WORMS. *Spiracles*, obscure; *jaws*, various; frequently *hermaphrodites*; *organs* of sense tentacula, (generally) eyes, brain σ , ears σ , nostrils σ ; *covering*, calcareous or σ , except spines; *supporters*, feet σ , fins σ ; *crawl* in moist places, and are *mute*.

CLASS I. MAMMALIA.

THESE suckle their young by means of lactiferous teats. In external and internal structure they resemble man: most of them are quadrupeds; and with man, their natural enemy, inhabit the surface of the earth. The largest, though fewest in number, inhabit the ocean.

They are distributed into 7 Orders, the characters of which are taken from the number, situation, and structure of the *teeth*.

- I. PRIMATES. *Fore-teeth* cutting, upper 4 parallel, (except in some species of bats which have 2 or σ); *tusks*, solitary, that is, one on each side, in each jaw; *teats* 2, pectoral; *feet*, 2 are hands; *nails*, (usually) flattened, oval; *food*, fruits, except a few who use animal food.
- II. BRUTA. *Fore-teeth* σ in either jaw; *feet* with strong hoof-like nails; *motion*, slow; *food*, (mostly) masticated vegetables.
- III. FERÆ. *Fore-teeth* conic, usually 6 in each jaw; *tusks* longer; *grinders* with conic projections; *feet* with claws; *claws* subulate; *food*, carcases and preying on other animals.
- IV. GLIRES. *Fore-teeth* cutting, 2 in each jaw; *tusks* σ ; *feet* with claws formed for running and bounding; *food*, bark, roots, vegetables, &c. which they gnaw.

V. PECORA. *Fore-teeth*, upper 0, lower cutting, many; *feet* hoofed, cloven; *food*, herbs which they pluck; *chew* the cud; *stomachs* 4, the *paunch* to macerate and ruminate the food, the *bonnet*, reticulate, to receive it, the *omasus*, or maniplies of numerous folds to digest it, and the *abomasus* or caille, fasciate, to give it acescency and prevent putrefaction.

VI. BELLUÆ. *Fore-teeth* obtuse; *feet* hoofed; *motion* heavy; *food* gathering vegetables.

VII. CETE. *Fins* pectoral instead of feet; *tail* horizontal, flattened; *claws* 0; *hair* 0; *teeth*, in some cartilaginous, in some bony; *nostrils* 0, instead of which is a fistulous opening in the anterior and upper part of the head; *food* molluscæ and fish; *habitation*, the ocean.

These are necessarily arranged with the mammalia from their similarity of structure, though their habits and manners are like those of fish. *Heart* with 2 auricles, 2 ventricles; *blood* warm; *lungs* respiring alternately; *eyelids* moveable; *ears* hollow, receiving sound through the medium of the air; *vertebræ* of the neck 7; *lumbar* bones, and *coccyx*; *teats* lactiferous, with which they suckle their young.

CHARACTERS

CHARACTERS of the MAMMALIA.

I. PRIMATES. *Fore-teeth incisors, 4; tusk 1.*

1. *HOMO*. Walks erect; body naked, except in a few places.
2. *Simia*. Tusks distant from each other.
3. *Lemur*. Fore-teeth, lower 6.
4. *Vespertilio*. Fore-feet palmate, formed for flying.

II. BRUTA. *Fore-teeth 0, in either jaw.*

10. *Rhinoceros*. Horn on the middle of the forehead.
11. *Sukotyra*. Horn on each side near the eyes.
12. *Elephas*. Tusks and Grinders; nose elongated into a proboscis.
13. *Trichechus*. Tusks upper; grinders rough bony; feet stretched backwards.
5. *Bradypus*. Tusks 0; anterior grinders longer; body hairy.
6. *Myrmecophaga*. Teeth 0; body hairy.
8. *Manis*. Teeth 0; body scaly.
9. *Dasypus*. Grinders; Tusks 0; body covered with a crustaceous shell.
7. *Platypus*. Mouth like a duck's bill; feet palmate.

III. FERÆ. *Fore-teeth conic, (10, 6, 2.); tusk 1.*

14. *Phoca*. Fore-teeth upper 6, lower 4.
15. *Canis*. Fore-teeth 6, 6; intermediate upper ones lobate.
16. *Felis*. Fore-teeth 6, 6; lower ones equal; tongue aculeate.
17. *Viverra*. Fore-teeth 6, 6; intermediate lower ones shorter.
18. *Mustela*. Fore-teeth 6, 6; lower ones crowded; 2 alternate interior.
19. *Ursus*. Fore-teeth 6, 6; upper ones excavate; a crooked bone in the penis.
20. *Didelphis*. Fore-teeth upper 10, lower 8.
21. *Talpa*. Fore-teeth upper 6, lower 8.
22. *Sorex*. Fore-teeth upper 2, lower 4.
23. *Erinaceus*. Fore-teeth upper 2, lower 2.

IV. GLIRES. *Fore-teeth incisors, 2; tusks 0.*

24. *Hystrix*. Body covered with spines.
25. *Cavia*. Fore-teeth wedged; grinders 4 on each side; clavicle 0.
26. *Castor*. Fore-teeth upper wedged; grinders 4 on each side; clavicle perfect.

27. *Mus*.

27. *Mus*. Fore-teeth upper wedged; grinders 3 on each side; clavicle perfect.
28. *Arctomys*. Fore-teeth wedged; grinders upper 5, lower 4 on each side; clavicle perfect.
29. *Sciurus*. Fore-teeth upper wedged, lower acute; grinders upper 5, lower 4 on each side; clavicle perfect; tail distichous; whiskers long.
30. *Myoxus*. Whiskers long; tail round, thicker at the point.
31. *Dipus*. Fore-feet short; hind-feet long.
32. *Lepus*. Fore-teeth upper double.
33. *Hyrax*. Fore-teeth upper broad; tail o.

V. PECORA. *Upper fore-teeth o.*

34. *Camelus*. Horns o; tusks many.
35. *Moschus*. Horns o; tusks solitary, upper ones projecting.
37. *Camelopardalis*. Horns shortest; fore-feet longer than the hind.
36. *Cervus*. Horns solid, branching, deciduous; tusks o.
38. *Antelope*. Horns solid, simple, persistent; tusks o.
39. *Capra*. Horns hollow, erect; tusks o.
40. *Ovis*. Horns hollow, reclined; tusks o.
41. *Bos*. Horns hollow, spread; tusks o.

VI. BELLUÆ. *Fore-teeth upper and lower.*

42. *Equus*. Fore-teeth upper 6, lower 6.
43. *Hippopotamus*. Fore-teeth upper 4, lower 4.
44. *Tapir*. Fore-teeth upper 10, lower 10.
45. *Sus*. Fore-teeth upper 4, lower 6.

VI. CETE. *Teeth various; feet o.*

46. *Monodon*. Teeth in the upper jaw 2, protruding, bony.
47. *Balaena*. Teeth in the upper jaw horny.
48. *Phyfeter*. Teeth in the lower jaw only; bony.
49. *Delphinus*. Teeth in both jaws; bony.



MAMMALIA.

ORDER I. PRIMATES.

Fore-teeth cutting; upper 4, parallel; teats 2 pectoral.

1. HOMO.

Sapiens. Diurnal; varying by education and situation.

2. Four-footed, mute, hairy. *Wild Man.*
3. Copper-coloured; choleric, erect. *American.*
Hair black, straight, thick; nostrils wide, face harsh; beard scanty; obstinate, content free. Paints himself with fine red lines. Regulated by customs.
4. Fair, sanguine, brawny. *European.*
Hair yellow, brown, flowing; eyes blue; gentle, acute, inventive. Covered with close vestments. Governed by laws.
5. Sooty, melancholy, rigid. *Asiatic.*
Hair black; eyes dark; severe, haughty, covetous. Covered with loose garments. Governed by opinions.
6. Black, phlegmatic, relaxed. *African.*
Hair black, frizzled; skin silky; nose flat; lips tumid; crafty, indolent, negligent. Anoints himself with grease. Governed by caprice.

Meastrosus Varying by climate or art.

1. Small, active, timid. *Mountaineer.*
2. Large, indolent. *Patagonian.*
3. Less fertile. *Hottentot.*
4. Beardless. *American.*
5. Head conic. *Chinese.*
6. Head flattened. *Canadian.*

The anatomical, physiological, natural, moral, civil and social histories of man, are best described by their respective writers.

2. SIMIA. *Fore-teeth* in each jaw 4, approximate: *tusks* solitary, longer, more remote: *grinders* obtuse.

These greatly resemble man in the *uvula*, *eye-lashes*, *hands*, *feet*, *fingers*, *toes*, *nails*, and other parts of the body; yet differ widely in the total want of reason: are of retentive memory, imitative, and full of gesticulations; chatter with the teeth and grin; macerate their food in the cheeks before they swallow it; filthy, lascivious, thieving, gregarious, and the prey of leopards and serpents.

A. Tail 0. Apes.

Troglo- Head conic, *body* brawny, *back* and *shoulders* hairy, rest of
dyles. the body smooth. *Angola Ape.*

Satyrus. Rusty-brown, *hair* of the *fore-arms* reversed, *haunches*
covered. *Orang-outang.*

Body often erect, entirely covered, brown, thinly sprinkled with reddish hairs hardly an inch long: *hair* of the *fore-arms* reversed: *head* round, *fore-head* naked, margin of the mouth hairy; *eyelashes* black, upper ones longer, thicker; a transverse series of hairs instead of eyebrows; *nose* short downy; *palms* smooth, thumb shorter than the palm: *feet* well-formed, great toe short, the rest long. Inhabits the island of *Borneo*.

Greatly resembling man, even in the hyoid bone, yet, with the rest of his tribe, wants the nail of the great toe; and from the structure of the larynx, muscles, and whole frame of the bones, evidently not designed to walk erect. From 3 to 5 feet high.

2. Cheek-pouches 0; *callosities* on the haunches 0; and walks always erect. *Pongo.*

Inhabits *Java* and *Guinea*. 5—6 feet high. *Face* flat, naked, tawny; *teeth* resembling those of man; *hair* on the back and loins in small quantities; *ears*, *hands*, *feet*, *breast*, *belly* naked.

3. Resembling the former, but only 2½ feet high.

Docile, gentle, grave; probably only differing from the former in age.

Lar. Haunches naked; *arms* as long as the body.

Long-armed Ape.

Found in *India*; gentle, slothful, impatient of cold and rain; 4 feet high.

Face flesh-coloured, nakedish, surrounded with a circle of grey hairs; eyes large and sunk; colour varying from black to white; more erect than *S. Satyrus*.

Less

2. Less than the former, $1\frac{1}{2}$ feet high; *face, body, brown.*
3. Body and arms covered with silvery hairs; *face, ears, crown, hands, black.*

Inhabits the forests of *Deval* in *Bengal*; playful, gentle, elegant; 3 feet high.

Sylvanus. Haunches naked; head roundish; arms shorter. *Pigmy.*
Inhabits *Africa* and *Ceylon*; mild and easily tamed; uses threatening gestures when angry, chatters when pleased; salutes after the manner of the *Cassres*; drinks from the palm of the hand.

Face short, flat; fore-head transversely projecting at the region of the eyebrows; skin rough, hair on the neck and fore-arms reversed; about $1\frac{1}{2}$ feet high.

Jauns. Haunches naked; head oblong. *Magot.*
Inhabits *Africa*; fond of the open air; deformed, dirty, melancholy.

Resembles *S. Sylvanus*; snout longer, colour paler, nails rounded; $3\frac{1}{2}$ feet high.

Suilla. Nose blunt, truncate, resembling a hog. *Hog-faced Ape.*

B. Tails short, Baboons.

Nemestrina Beard thin; colour grey; eyes hazel; haunches naked.
Inhabits *Sumatra*; lively, gentle, tractable, impatient of cold.
Face naked, tawny; nose flat, lips thin, with hairs resembling whiskers; hair on the body olive-black, belly reddish-yellow; about 2 feet high.

Apedia. Thumb close to the fingers; nails oblong, thumb-nails rounded; haunches covered. *Little Baboon.*
Inhabits *India*: size and colour of *S. Sciurus*. Nails oblong, compressed, except the thumb and great-toe nails, which resemble those of a man; tail hardly an inch long; face brown, with a few scattered hairs.

Stinx. Mouth with whiskers; nails acuminate; haunches naked. *Great Baboon.*
Inhabits *Borneo*; lascivious, robust, fierce; feeds on fruits and seeds, demolishes the produce of cultivated lands.
Head oblong, resembling that of a dog, but more obtuse; neck long; tail short, erect; haunches red edged with purple: 3—4 feet high.

Mormon. Beard thin; cheeks tumid, naked, blue, obliquely furrowed; haunches naked, red. *Tufted Ape.*

Inhabits India.

Fore-head tufted with white crest hairs; *snout* long, naked; *nose* red; *beard* white, short; *throat* yellowish; *neck* white above, yellow beneath; *back* dark grey; *belly* whitish; *loins* violet, shining through thin hair; *future* of the belly, naked, red; *nails* acutish, of the thumbs rounded.

Maimon. Beard thin; cheeks blue, striate; haunches naked.

Ribbed-nose Ape.

Inhabits Guinea; weeps and groans like man; libidinous, ugly, disgusting.

Differs from the last in its blue nose, and wanting the vertical tuft; body reddish-brown; breast, belly grey; 4—5 feet high.

Porcaria. Head resembling a hog; snout naked; body brown-olive; haunches covered; nails acuminate. *Hog Baboon.*

Inhabits Africa; probably a variety of *S. Suilla*.

Sylvatica. Face, hands, feet, naked, black, smooth; nails white.

Wood Baboon.

Inhabits Guinea; about 3 feet high.

Face canine; skin fine, glossy, black; body covered with longish close hair, variegated with black and tawny; ears almost hid in fur; tail not 3 inches long.

Variegata. Bright yellow mixed with black; face long, black, naked; hands covered on the back with hair. *Yellow Baboon.*

Inhabits Africa; resembles *S. Sylvatica*.

Above the eyes several long dusky hairs: about 2 feet high.

Cinerea. Face dusky; beard pale brown; crown variegated with yellow; body cinereous. *Cinereous Baboon.*

Inhabits Africa & about 2 feet high.

Liuea. Face blueish; fore-teeth 2 broad flat; beard pale brown.

Blue-faced Baboon.

Over the eyes long hairs; ears with a tuft of hair behind each; hair black mixed with cinereous and rusty brown: about 3 feet high.

Platypygos Face dirty-white surrounded with short straight hairs; muzzle broad, large. *Brown Baboon.*

Body upper part brown, under cinereous; tail tapering, almost bare, naked beneath, 4 inches long.

Cristata. Hair on the crown of the head and cheeks long, dishevelled. *Crested Baboon.*

Body

Body covered with long black hair; breast whitish; face, hands, feet, black, naked; tail tapering, about 7 inches long: 2 feet high.

C. *Tail long not prehensile, cheeks pouched, haunches naked. Monkeys.*

Cynopithecus. **Beard** 0; *face long, fore-head sooty, a whitish band over the eyes; male genitals coloured; nails convex.*

Dog-tailed Monkey,

Faithless, restless, lascivious: 2 feet high.

Haplorhina. **Cinereous; ears hairy; nails sharpish; haunches red.**

Tartarin Monkey.

Inhabits Africa; fierce, singular in appearance.

Face prominent; nose smooth red; ears pointed, almost hid in fur; hair on the sides of the head and as far as the waist long shaggy; nails of the fingers flat, of the toes acute, narrow: about 5 feet high.

2. **Head above the fore-head prominent, terminating in a ridge.**

Inhabits the Cape of Good Hope; very gregarious, pillages gardens, and is watchful of surprise; head large; nose long, thick; ears short; crown covered with long upright hairs; body, rough, hairy; tail half the length of the body, arched at the end; nails flat rounded; haunches red: 4—5 feet high.

Pithecia. **Beard black; body white.**

Lowando.

2. **Beard white.**

Inhabits Ceylon; wild, ferocious, mischievous.

Tufts long, large; head surrounded with a broad mane; body longish tapering: 3—3½ feet high.

Silvery. **Beard long black; body black.**

Wanderu.

2. **Beard bushy.**

Inhabits Ceylon, and the rest of India.

3. **Jet black; beard white, very long.**

Inhabits Guinea; about 2 feet high.

4. **Beard white, triangular short pointed, extending on each side beyond the ears.**

Inhabits Ceylon; harmless, lives in the woods, feeds on leaves and buds, easily tamed.

Body black; face, hands purple; tail long, ending in a dirty white tuft.

Formica. **Bearded; tail bushy at the end.**

Malbrouck.

Inhabits Bengal,

Face

Face grey; eyes large, eyelids flesh-coloured, forehead with a grey band instead of eyebrows; ears large, thin, flesh-coloured; body blackish; breast, belly, white; beard hoary pointed; hardly a foot high.

Cynomol- Beard o; nostrils bifid thick; tail arched; haunches naked.
pus. Inhabits Africa; mild, tractable, dirty, loathsome, watching at night in trees.

Head large, face naked, livid, wrinkled; ears covered with hair; body short, thick, upper parts greenish ash-colour, breast, belly, yellowish grey: $1\frac{1}{2}$ feet high.

Cynocephalus. Beard o; colour yellowish; mouth projecting; tail straight; haunches bald. Dog Monkey.
Inhabits Africa. Resembles *S. Inuus*, except that it has a tail.

Diana. Bearded; forehead projecting; beard pointed. Spotted Monkey.

Inhabits Guinea and Congo; playful when young, salutes passengers by nodding, chatters and grins when angry, bites and is ill-tempered when old and the tusks grow long, cleanly, and when called cries *greck*.

Size of a cat; colour black spotted with white; back rusty-brown; thighs underneath pale red; throat, breast, white; beard black above, beneath white, long, pointed; forehead with white erect pointed hairs, and a transverse crescent-shaped line; a white line passing from the anus to the knee on the outside of each thigh; tail straight, long, black; face, ears, belly, feet, black.

Sabaa. Beard o; colour yellowish green; face black; tail grey; haunches naked. Green Monkey.
Inhabits Cape de Verd, Cape of Good Hope, and the neighbouring countries.

Body on the upper parts a mixture of grey, green and yellowish; throat, breast, belly, thighs, white; face naked, black, temples yellowish white; hairs long, reversed; eyebrows black, bristly; tail straight, as long as the body, hoary; feet cinereous; nails rounded, those of the hands ovate: size of a cat.

Cephus. Tailed; cheeks bearded; crown yellowish; feet black; tail rusty at the point. Moustache.

Inhabits Guinea.
Body above brown, beneath bluish white; head with white erect hairs, eyebrows with a white transverse arch; upper eyelids white; hair on the cheeks standing out; mouth bluish; under the ears two large tufts of yellow hairs like Moustachios: size of *S. Diana*. Ethiops.

Ethiops. Tailed, beardless; *fore-top* white, erect; *arch* of the forehead white. *White-eyed Monkey.*

2. Neck and cheeks surrounded with a broad collar of white hair.

Inhabit *Madagascar*.

Face, thick, broad; eyes surrounded by a prominent ring; eyelids naked, very white; ears black, almost naked; tail arched, covered with long bushy hair: $1\frac{1}{2}$ feet high.

Agala. Tailed; beard scanty; colour grey; crown with an erect tuft of hair reversed longitudinal. *Egret.*

Inhabits *India, Java*.

Body grey like a wolf, throat, breast, belly, whitish; tail longer than the body, cinereous, tapering; face flattish, whitish, naked; nose depressed, short, distant from the mouth, with a double furrow on the upper lip; cheeks a little bearded, hairs turned back; eyebrows gibbous, bristly, prominent; feet black, semipalmate; nails of the thumbs and great toes rounded, the rest oblong; ears pointed; an arched *future* from the ear towards the eyes and back to the base of the lower jaw, and a longitudinal seam on the fore-arm.

2. Head rounder; face less black; body paler brown.

Niditas. Tailed, beardless, black sprinkled with pale spots; nose white; thumb very short; haunches covered.

Nodding Monkey.

2. Beard long, white.

Inhabit *Guinea*; playful and continually nodding the head.

Face hairy; mouth short; orbits naked; irids pale yellow; hair black, with a few pale rings; lips, chin, whitish; tail straight, cylindrical, longer than the body; thumb not longer than the first joint of the fore-finger.

Sinica. Tailed, beardless; *fore-top* horizontally placed, and shading the whole head. *Chinese Monkey.*

2. Fore-top erect, having the appearance of a round black bonnet; body brown; legs, arms, black.

Inhabits *Bengal*; 2) *India*.

Tail much longer than the body; nails of the thumbs and great toes rounded, the rest oblong; body, upper parts pale brown mixed with yellow, lower whitish: size of a cat.

Senou. Tailed, beardless; cheeks bearded; tail white.

Cochinchina Monkey.

Inhabits *Cochinchina, Madagascar*.

Face, ears, light red; forehead with a narrow brown band, covered with black hair; hair surrounding the face whitish mixed with

with yellow; neck on the upper part with a wreath of the same colour as that of the fore-head; shoulders, upper parts of the arms black; hands, groin; whitish; thighs on the upper part and toes black; feet to the knees brown: 2—4 feet high. From this species is procured the Bezoar of the ape.

Mona. Tailed, bearded; a prominent whitish-grey semilunar arch over the eyebrows. *Varied Monkey.*

Inhabits Morocco, and the warmer parts of Asia; gentle, docile, patient of cold.

Head small, round; face bright, tawny brown; hair on the crown yellow mixed with black; a dark band from the eyes to the ears, and to the shoulders and arms; tail greyish brown; rump with two white spots on each side: 1½ foot high.

Rubra. Tailed, bearded; cheeks bearded; crown, back, tail, blood red. *Red Monkey.*

2. Beard yellow; band over the eyes black.

3. Beard white; band over the eyes white.

Inhabit Senegal, Congo and hot parts of Africa. Crown flat; body, legs long; hair on the upper parts bright red, beneath yellow-grey; over the eyes to the ears a band: 2) black: 3) white; tail longer than the body: size 1½—2 feet.

Talapoin. Tailed, bearded; cheeks bearded; ears, nose, soles, black. Inhabits India.

Body brownish green, elegant: size 1 foot; tail 1½ feet long.

2. Colour black.

Head roundish; face tawny, with a few black hairs; ears human; breast, belly, thighs on the inside, dusky flesh-coloured; gentle, playful: size of a large cat.

Petaurista Tailed, bearded; back, upper part of the tail, anterior parts of the legs, dark olive; face black; nose with a triangular white spot. *Agile Monkey.*

Inhabits Guinea; gentle, docile; 13 inches high; tail 20 inches long.

Maura. Tailed, bearded; cheeks, whole face, except the region extending from the eyes to the tip of the nose, bearded; body reddish brown. *Negro Monkey.*

Inhabits Ceylon and Guinea; active, gentle.

Tail longer than the body; face tawny flesh-coloured; feet, hands, black, naked, soft; when sitting, about 7 inches high.

Roloway. Tailed, bearded; head, back, outside of the hands and feet black, inside, belly and circular beard enclosing a triangular face, white. Inhabits

Inhabits Guinea: gentle, docile.

Beard long, forked; $1\frac{1}{2}$ feet high; tail same length.

Nasua. Beard o; face long, slender, naked, flesh-coloured; nose projecting.

Inhabits Africa? good tempered.

Head covered with thick longish hair falling backwards; ears small pointed, nakedish; hair on the upper parts and limbs, long, rusty-brown mixed with black, on the breast and belly, light ash-colour; tail very long: when sitting about 2 feet high.

Luteola. Tusks very large; ears large, black, naked; cheeks with long pale-yellow locks reversed. Yellow Monkey.

Inhabits Guinea?

Crown, upper parts of the body, arms, thighs, ash-colour mixed with yellow; lower parts cinereous; face black, with long hairs over each eye; throat, breast, yellowish white; hair coarse; tail as long as the body: size of a fox.

Fusca. Tusks in the lower jaw long; face long, flesh-coloured; nose flattish. Tawny Monkey.

Inhabits India: ill tempered.

Body, upper parts covered with a pale tawny fur cinereous at the roots; back, hinder parts orange; legs cinereous; belly white; tail shorter than the body: size of a cat.

Viridens. Face black; cheeks with long black hairs; body pale green; limbs grey; tail dusky.

Is probably only a variety of the last.

Hircina. Face naked, blue, obliquely ribbed; beard long, goat-like; tail long; body deep brown.

Regalis. Thumb o; head, cheeks, throat, shoulders, covered with long coarse flowing hairs.

Inhabits the forests of Sierra Leone.

Head small; face short, black, naked; toes long, slender; nails narrow pointed; tail long, covered with snow-white hairs, a tuft at the end; body, limbs, slender: 3 feet high. The skin is by the natives made into pouches and gun-bags.

Basile. Thumbs o; tail long, slender, black; body and limbs slender. Bay Monkey.

Inhabits Sierra Leone.

Crown black; back deep bay; limbs on the outside black; cheeks, under parts of the body and legs bright bay.

Fusca. Tail shorter than the body, alternately annulate with dark and light brown. *Brown Monkey.*
 Face flat; cheeks and forehead with long hairs; body above tawny-brown; belly cinereous; hands black, naked.

D. Tails prehensile; cheek-pouches 0; haunches covered.
 Sapajous.

Beelzebub. Tailed, bearded, black: tail at the tip, and feet, brown.
 Inhabits South America: wanders in flocks by night, and howls hideously; is exceedingly fierce.
 Beard round, black; hair long, black, smooth.

Seniculus. Tailed, bearded, red. *Old man of the woods.*
 Inhabits the woods about Carthaginia, Cayenne, and the river Amazon: salutes passengers from trees, the whole herd howling at the same instant: feeds on the fruit of the Banana.
 Body uniformly dirty-red; mouth like that of a man, placed in the anterior part of the face; chin prominent: size of a calf.

Paniscus. Tailed, black, beardless; thumb 0.
 Inhabits South America: is active, bold, fond of gesticulations, and very impatient of cold or confinement.
 Body sometimes brown; face naked, red; limbs and waist slender, and with the exterior half of the tail sometimes brown, sometimes black; thumb very short and concealed within the fingers; skin black, covered with rough black hair; ears naked; nails of the hands round, of the feet oblong.

Exquima. Bearded; back variegated with black and yellow; throat and belly white.
 Inhabits South America: in size and disposition resembles the last.

Trepida. Tailed; beard 0; fore-top erect; hands and feet blue; tail hairy.

2. Hair round the face grey, brownish-yellow on the body.
 Inhabits Surinam: nimble, dextrous, amusing: a foot high.
 Body brown, beneath rusty; hair of the head formed into a black erect hemispherical tuft; tail hairy; nails rounded; face and ears downy flesh-coloured; eyes approximate, chestnut.

Fatuellus. Tailed, beardless; two tufts on the head resembling horns. *Horned Sapajou.*

Inhabits South America: is harmless and gentle.
 Face, sides, belly, and anterior thighs brown; crown, middle of the back, tail, feet, and hind part of the thighs, black; nails long, bluntish; tail spiral.

Apella.

Apella. Tailed, beardless; *body* brown; *feet* black. *Brown Sapajou.*
Inhabits *South America*: nimble, constantly looking about, and
cries like a young turkey.

Capuina. Beard 0; *skin* brown; *hair* and limbs black; *tail* shaggy;
haunches covered. *Capucin Monkey.*

2. Hair on the breast, throat, round the ears and cheeks white.
Inhabit *South America*: mild, docile, timid; walk on the heels
and do not skip; cry in a wailing voice; repel their enemies
by horrid howlings; shriek often like the cricket; when
angered yelp like a whelp; carry the the tail spirally rolled
up, which is often coiled round the neck; smell of musk.
Face sometimes black, sometimes flesh-coloured on the forehead;
tusks approximate; *nose* carinate towards the eyes; a black
varicose retractile wrinkle just under the hair of the forehead;
tail long, always curved, covered with long shaggy hair:
size of a cat.

Sciurea. Beard 0; tailed; hind part of the *head* prominent; *nails* of
the 4 smaller toes ungulate; *haunches* covered. *Orange Monkey.*

Inhabits *South America*: pleasant, beautiful, graceful; rests by
lying on its belly; looks in the face of such as speak to it;
impatient of the climate of Europe.

Body greenish-grey, under parts whitish; *legs*, *arms*, rusty;
tail shaggy, black at the tip, twice as long as the body;
nails of the thumbs and great toes rounded; *face* blueish-
brown; *eyebrows* bristly; *ears* with scanty whitish hairs:
size of a squirrel.

Morta. Beard 0; tailed; chesnut; *face* brown; *tail* naked, scaly.
Inhabits *America*.

Differs from *S. Sciurea* only in size which is less, and is pro-
bably only the younger animal of the same species.

Synlla. Tailed, beardless; *mouth* and *eyebrows* with long hairs.
An obscure and doubtful species.

Variegata. Hair on the sides and back mixed orange and black.

Inhabits *Antigua*? lively, docile, full of tricks.

Face black; *nose* short; long hair hanging down each side the
cheeks; *belly* white; *legs* outside black, inside cinereous; *tail*,
by which it frequently hangs, dusky-ash: 18 inches long,
tail 20.

E. Tails not prehensile; *cheek-pouches* 0; *haunches* co-
vered. Sagoins.

Pithecia. Tailed, beardless; hairs of the body long, black at the tips; tail black, very shaggy. *Fox-tailed Monkey.*

Inhabits *South America*: amusing, easily tamed.

Face covered with whitish down; throat, belly, with dirty-whitish hairs; nails long, obtuse: size $1\frac{1}{2}$ foot.

Jacchus. Tailed; ears hairy, broad; tail curved, very hairy; nails subulate, of the thumbs and great toes rounded.

Striate Monkey.

2. Yellowish, smelling of musk.

Inhabits *Brazil*: active, restless, climbing like the squirrel, feeds on insects, fruits, milk, bread, tea and small birds, gnaws bark, untameable, biting, tormenting cats by fixing under the belly, emits a hissing cry.

Body grey-ashy; lips, forehead, white; head small, black, between the eyes yellowish; ears covered before with long white fur, which prevents the entrance of wind; tail longer than the body, annulate with white; fore-teeth 4, intermediate ones broader, parallel, lateral ones acute, approaching at the points; above the nose a naked white spot: hardly 8 inches long.

Oedipus. Tailed; beardless; locks hanging; tail red; nails subulate. *Red-tailed Monkey.*

Inhabits *South America*: active, brisk, imitating the lion in its gestures, something less than *S. Jacchus*, smells musky, voice resembling a moule.

Body grey, underneath white; head with long white hanging locks; face black, a few white hairs behind the ears; a wart on each cheek; irids rusty; ears roundish, black, naked; nails subulate, except the thumb; tail twice as long as the body, a little hairy, black, red at the base; region of the anus red.

Rosalia. Tailed; beardless; head hairy; circumference of the face and feet red; nails subulate. *Silky Monkey.*

Inhabits *South America*: playful, and less impatient of cold than others.

Body yellowish-white; nails of the thumbs and great toes rounded; ears naked, hid by the hair; face brown surrounded with a bright-red mane; hair long, silky; tail tufted: 8 inches long, tail 13.

Midas. Tailed; beardless; upper lip cleft; ears square, naked; nails subulate. *Tamarin.*

Inhabits *Surinam*: lively, easily tamed.

Hands and feet saffron; body black; tail twice as long as the body, black; ears naked, broad, blunt; nails subulate, resembling those of a cat, except of the great toes which are rounded like those of a man: size of a squirrel.

3. LEMUR, *Fore-teeth* upper 4, intermediate ones remote; lower 6, longer, extended, compressed, parallel, approximate; *tusks* solitary, approximate: *grinders* many, sublobate, foremost longer, sharper.

Tardigradus. Tail 0; body tawnyish-ash.

Loris.

Inhabits Ceylon: agile, quick of hearing, monogamous.

Back with a brownish line; *throat* whitish; between the *eyes* a white longitudinal line; *face* hairy; *ears* urceolate, within bifoliate; *hands, feet*, naked; *nails* rounded, of the great toes subulate; *teats* 2 on the breast, 2 on the upper part of the belly; *size* of a squirrel.

Ecaudatus. Tail 0; a dark rusty line along the middle of the back from the rump to the forehead, where it becomes forked; *orbits* surrounded by a blackish circle.

Taillefs Maucauco.

Inhabits Ceylon, Bengal: inactive, creeps slowly on the ground, lives in the woods, feeds on fruit, eggs and small-birds, tenacious of its hold, emits a plaintive cry.

Head small, round, broad at the forehead; space between the *eyes* white; *ears* small; *fingers* and *toes* naked; *nails* flat, rounded, except the toes of the hind-paws next the great toes, which have long crooked sharp claws; *body* covered with short soft silky cinereous and reddish fur: *length* about 16 inches.

Indri. Tail 0; black.

Inhabits Madagascar: easily tamed when young, and used by the natives for hunting; cries like an infant.

Tusks in each jaw 8, *fore-teeth* upper 2, lower 4, approximate; *feet* 5-toed, *nails* flat, acute, of the great toe large; *hair* thick, silky, on the rump curled, white on the *face*, and towards the genitals grey, rest of the body black; the rudiment of a tail sensible to the touch; *length* $3\frac{1}{2}$ feet.

Potto. Tailed, pale rusty; *tail* of the same colour.

Inhabits Guinea: differing only from the last in its tail.

Mongoz. Tailed, grey; *tail* of the same colour. *Woolly Mongooz*.

Body grey or rather brownish, white underneath; band over the *eyes* black; *hands* pale ash.

2. *Body* grey or brown; *face, hands* black.

3. *Body*

3. Body grey or black, near the *eyes* a black spot.
4. Body brown; *nose, hands*, white.
5. Body entirely brown.
6. Body grey; *face* black, *hands* yellow.

Inhabits *Madagascar*, and the neighbouring islands: active, filthy, feeds on fruits.

Nails of the great toes subulate, longer.

Macao. Tailed, black; *collar* bearded.

Vari.

2. Body brown,
3. Body white.
4. Body black and white mixed.

Inhabits *Madagascar*, and the adjacent islands; fierce and dangerous when wild, gentle when tamed, cleanly, delights in sun-shine, and sleeps in dark places; refuses eggs, flesh, fish; roars almost like a lion.

Nails of the great hind-toes nearly subulate.

Catta. Tail white annulate with black. *Ring-tail Maucauco.*

Inhabits *Madagascar*, *St. Johanna*: gregarious, very gentle, climbs with all its feet like the ape, feeds on fruits, herbs, roots, when pleased and at rest purrs like a cat.

Nails of the great toes not longer or subulate; *tail* large, erect, waving, with 30 rings; *hair* soft, erect: *size* of a cat, but longer.

Murinus. Tailed, cinereous; *tail* tawny.

Inhabits *Madagascar*: gentle, elegant.

All the *nails* flat, rounded.

Bicolor. Tailed; upper parts blackish-grey, beneath dirty-white; *forehead* with a dirty-white heart-shaped spot.

American Maucauco.

Inhabits *South America*.

Head resembles that of a bull-dog; *nails* all subulate; *feet* white.

Laxiger. Tailed; above reddish-yellow, beneath white; *tail* uniformly tawny-red.

Inhabits *Madagascar*: about 21 inches long.

Hair soft, curled, about the loins reddish-tawny; *face* black; *ears* small; *eyes* large, greenish-grey; *fore-teeth* upper 2, lower 4; *tail* 9 inches long; *feet* 5-toed, *nails* long, great toe nail rounded.

Podje.

Podje.

Hind-legs very long, slender, especially from the heel to the toes; *tail* long, slender.

Inhabits *Amboina*, and the remotest part of *India*: 6 inches long. *Head* cinereous, rest of the body tawny mixed with ash; *face* long, muzzle slender 2 lobed; *ears* erect, broad, naked, with a tuft of long hair between on the top of the head; *fore-teeth* 2, *tusks* 2, *thumb* distinct; *toes* 4, slender, on each foot; *nails* short, sharp, but on the great toes flat, rounded; *hair* long, soft, woolly; *tail* almost naked, greater parts scaly, tufted at the end, $9\frac{1}{2}$ inches long.

Prehensilis Tail prehensile.

Little Maucauco.

Inhabits *Madagascar*: lively, rolls itself up when asleep, carries its food in its hands, bites severely, voice weak, not tameable, feeds on fruits.

Body upper parts cinereous, lower white, space round the eyes dark; *head* rounded; *mouth* sharp; *whiskers* long; *ears* large, roundish, naked, thin; *eyes* large, full; *toes* long, unequal; *nails* short, rounded, a sharp long claw on the inner toe of the hind-paw; *tail* hairy, long as the body: *size* less than a common black rat.

Velans.

Tailed; surrounded by a membrane formed for flying.

Flying Maucauco.

Inhabits *Guzurat*, *Philippine* and *Mollucca* isles, gregarious, nocturnal, feeds on fruits.

Membrane reaching from the head to the fore-feet, thence down the sides to the hind-feet, and extended to the tip of the tail; *nails* acute; *teats* 2, pectoral; *head* long; *mouth*, *teeth*, small; *ears* small, round, membranous; *body* and membrane on the outside covered with soft hoary or black and ash-coloured hairs, inside naked, fibrous; *toes* 5, *claws* slender, sharp, crooked; *tail* slender, hairy: 3 feet long, the same expanded.

4. VESPERTILIO. *Teeth* all erect, acuminate, approximate: *fore-feet* palmate, formed for flying: a membrane surrounding the body.

The animals of this genus fly abroad by night, by means of the above described expansile membrane: feed on moths, gnats and nocturnal insects: torpid during winter in cold countries, gathering together in dark caverns, sticking to walls, or suspending by the hind-legs: have a remarkable additional sense of avoiding objects in their way when deprived of their eyes.

A. Fore-

A. Fore-teeth in each jaw 4.

Vampyrus. Tail 0; nose simple; membrane divided between the thighs. Ternate Bat.

2. Black or dark red; ears short, acutish.
3. Body brownish-black; neck on the upper part red.
4. Body straw-colour.

Inhabits the west of *Africa*, south of *Asia*, islands of the *Indian* ocean and *South seas*: said to fasten on and suck the blood of such as it finds asleep, an excellent phlebotomist in pleurisies, sticks upon trees in large clusters.

Fore-teeth obtusish, *tusks* upper solitary, furrowed by the action of the lower tooth, lower 2 with a small obtuse fore-tooth between each; *grinders* many, obtusish; *nostrils* hardly divided; *fore-feet*, the first toe separate, clawed, second affixed to the membrane; *hind-feet* cleft, clawed, the heels ending in a subulate cartilage annexed to the membrane; a *nictitating membrane* in the larger corner of the eye: length 5—9 inches.

Spectrum. Tail 0; nose funnelled, lanceolate. Vampire.

Inhabits *South America*: ugly, deformed.

Nostrils on the fore-part resembling a funnel, turning upwards into a lanceolate leaf; *ears* ovate with an inner subulate membranaceous flap the length of the ear; *tusks* solitary, large, anterior *grinders* shorter, more obtuse; *wing-toes* 4, first and second connected; *thumb* short, claw hooked; *feet* 5-toed equal, claws hooked; from the *heel* issues a subulate tendon along the margin of the membrane between the hind-feet, but not reaching the opposite: length about 7 inches, extent of the wings 2 feet.

*Perspici-
latus*. Tail 0; nose foliate, flat, pointed.

Inhabits *South America*.

Fore-feet in this and the next with 5 toes.

Spasma. Tail 0; nose foliate, obcordate.

Cordated Bat.

Inhabits *Ceylon*, and the *Molucca* islands.

Hastatus. Tail 0; nose foliate, resembling a leaf of trefoil.

Javelin Bat.

Inhabits *South America*: resembles the last, obscurely dark or black.

Soricinus. Tail 0; snout lengthened; nose foliate, hearted. Leaf Bat.

Inhabits *South America*.

Tail very short or 0; *tongue* furnished with sharp papillæ, long and adapted for sucking blood; *fur* mouse-colour tinged with red. Lepo.

Leporinus. Tailed; upper lips bifid. *Peruvian Bat*.
 Inhabits *South America*: feeds on fruits.
 Lower lip varicose; head like that of a pug dog; ears large,
 pointed: size of a rat.

Lasiurus. Tail short; lips pendent, upper cleft; nose lobed.
 Inhabits *Peru*, and the shores of the *Mosquito*.
 Head large; lips hanging like those of the mastiff; ears straight,
 long, narrow; colour of the head and back brown, of the belly
 ash; membrane thin, dusky: length 5 inches, extent 20.

B. Fore-teeth upper 4, lower 6.

• *Myotis*. Tailed; nose, mouth, simple; ears double, larger than the
 head. *Long-eared Bat*.
 Inhabits *Europe*; mouse-coloured.

• *Mus mus*. Tailed; nose, mouth, simple; ears less than the head. *Common Bat*.
 Inhabits *Europe*: flies at night, feeds on moths, is the prey of
 owls, caught by the heads of burdock whitened and thrown
 into the air; when on the ground cannot rise till it has crawled
 to an eminence; torpid in the winter, revives in the spring,
 breeds in the summer.
 Colour of the fur, mouse, tinged with red: length $2\frac{1}{2}$ inches,
 extent 9.

• *Noctula*. Tailed; nose, mouth, simple; ears oval, valved, valves small. *Great Bat*.
 Inhabits *France, Germany, Britain*: flies high.
 Nose slightly lobed; ears small, rounded; chin with a small wart.

Serotinus. Tailed, yellow; ears short, thick at the edges.
 Inhabits *France and Germany*.
 Colour brown mixed with rusty-yellow; belly paler; wings
 blackish: length $2\frac{1}{2}$ inches.

Pipistrellus. Tailed, browish-black; forehead convex; ears ovate,
 thicker at the edges, hardly longer than the head.
 Inhabits *France*, rarely *Germany*, common in *Russia and Siberia*.
 Body, upper parts dark yellowish-brown, lower dusky-brown
 or black; lips yellow, upper turgid; eyes small, sunk; fore-
 head covered with longish hairs: length 1 inch, extent 6.

Barbastellus. Tailed; cheeks tumid, hairy; ears large, angular beneath.
 Inhabits *Burgundy*: 2 inches long, 10 wide.

Face short; nose flattened; eyes near the ears; body, upper parts dusky-brown, lower mixed ash and brown.

Hispidus. Tailed, hairy; nostrils channelled; ears long, narrow.

Bearded Bat.

Inhabits near the river *Senegal*.

Beard longish; hair longish, rough; head, neck, shoulders, back, rump, reddish-brown, rest whitish tinged with yellow; claws yellowish: length $1\frac{1}{2}$ inch, extent 7.

C. Fore-teeth upper 4, lower 8.

Pidus. Tailed; nose simple; ears funnel-shaped, appendaged.

Striped Bat.

Inhabits *Ceylon*: 2 inches long.

Nose small; ears broad, short, pointing forwards; front, top of the head, neck, shoulders, back, rump, whitish-yellow; under-jaw, breast, belly, blueish tinged with yellow; membrane, tail, yellow mixed with brown, striped with black.

2. Upper parts of the body clear reddish-brown, lower parts whitish.

D. Fore-teeth upper 2, lower 6.

Nigrita. Anterior part of the head yellowish-brown; feet and tail black.

Senegal Bat.

Inhabits *Africa*, near the river *Senegal*.

Head longish, nose something pointed; ears short, pointed; body tawny or yellowish-brown mixed with ash; belly paler; length 4—5 inches, extent nearly 21.

E. Fore-teeth upper 2, lower 4.

Molossus. Tail extending far beyond the membrane; upper lip pendulous.

Bull-dog Bat.

2. Larger; above ashy-brown, beneath ash, on the middle of the belly brown.

3. Lefs; above brownish mixed with ash, beneath dirty-white.

Inhabit the *West India* islands: 2 inches long.

Lips long; ears broad, round; fore-legs and toes cinereous; membrane and tail black.

F. Fore-teeth upper 2, lower 0.

Cephalotes. Tailed; head large; lips projecting; nostrils spiral; warts under the eyes; ears small, not valved.

Molucca Bat.

Inhabits the *Molucca* islands: 3—4 inches long, 15 wide.

Tongue furnished with prickly papillæ; hair, above cinereous, beneath

beneath whitish: neck distinct, longish, thinly covered with hair; *tusks* of the upper jaw with 2 small intervening teeth.

2. Fine straw-colour; *belly* dull white.

G. *Fore-teeth* upper 0, lower 4.

Letmarus. Tailed; nostrils tubular; *ears* long, obtuse, valved; membrane connecting the legs with a pouch on the inside.

Pouch Bat.

Inhabits Surinam: $1\frac{1}{2}$ inch long.

Nose thick, whiskered; *chin* furrowed; *ears* long, rounded; *body* on the upper parts cinereous-brown, beneath paler.

**Ferrum equium*. Tailed; nose like a horse-shoe; *ears* long as the head, not valved; *tail* half the length of the body. *Horse-shoe Bat*, Inhabits France, England, Germany.

Face deformed; *ears* large, broad at the base, acute, inclining backwards; upper parts deep cinereous, lower whitish.

2. Larger; length $3\frac{1}{2}$ inches, extent 14.

3. Smaller.

H. *Fore-teeth* 0 in either jaw.

Novboraceus. Tail long; nose short, acute; *ears* short, round.

New-York Bat.

Inhabits North America, New Zealand.

Nose a little divided at the top; *body*, *head*, *membrane*, bright tawny; *belly* paler; at the base of each wing a white spot; *membrane* thin, naked, dusky; *hind-legs* slender: length $2\frac{1}{2}$ inches, extent 10.

I. Number and order of teeth unknown.

Lasiopterus. Tailed; membrane connecting the feet very broad.

Lafurus. Tailed; lips tumid; *tail* broad.

America-zus. Very large, with long straggling hairs; *ears* large.

These three last species are very little known and require farther investigation.

ORDER II. BRUTA.

Fore-teeth 0 in either jaw.

5. BRADYPUS. *Fore-teeth 0: grinders 6 in each jaw, obliquely truncate, cylindrical, 2 anterior longer, far distant: body covered with hair.*

Trydactylus.

Feet 4-toed; tail short.

Sloth.

Inhabits the warmer parts of *South America*: feeds on fresh leaves, lives in trees, never drinks, is fearful of rain; climbs easily, walks painfully and slowly, hardly travelling 50 yards in a day; turns its head as if astonished; its note an ascending hexachord; its cry is miserable, its tears are pitiful.

Body very hairy, grey; *face* naked; *throat* yellow; *ears* 0; *tail* subovate; *fore-feet* longer than the hind, distant; *toes* close; *claws* compressed, narrow, hooked, strong; *teats* 2, pectoral; *mouth* never without foam: *size* of a smallish dog.

Didactylus.

Fore-feet 2-toed; tail 0.

Two-toed Sloth.

Inhabits *South America* and *India*: feeds on fruits and roots; smell weak; sight better by night than day; not so slow in motion as the last.

Hair rusty-brown, waved; *head* rounded; *ears* large; *claws* on the fore-feet 2, on the hind-feet 3; *teats* 2, pectoral: in this and the last species there is only one common excretory canal as in birds: *length* 11 inches.

Pentadactylus.

Five toes on all the feet; tail short.

Five-toed Sloth.

A heavy clumsy though not ferocious animal, of a mixed resemblance between the bear, sloth and hog; when irritated gives a short harsh cry; catches what is thrown to it with its paws and carries it to its mouth; eats bread, fruit, eggs, but not roots; moves quick.

Tusks 2 in each jaw included by the lips; *body* arched on the back, covered with long black harsh hair shedding on each side from the ridge of the back; *face* at the top large, broad, lower part narrow, projecting; *neck* short, thick; *ears* short, erect, hairy, hid in fur; *mouth* wide, upper lips receiving the lower within the edges; *nostrils* covered by a lengthened flap; *tongue* long, flat, broadish, truncate; *upper jaw* with a moveable cartilage at the fore-part; *legs* distant, short, strong, fore-ones a little arched outwards; *feet* small; *soles* naked; *claws* long, narrow, hooked, white, close set, about 3 inches long, not retractile; *length* about $4\frac{1}{2}$ feet, height about 3, circumference nearly 5.

6. MYR-

6. MYRMECOPHAGA. *Teeth* 0: *tongue* round, extensile: *mouth* narrowed into a snout: *body* covered with hair.

Didactyla. Toes on the fore-feet 2, on the hind feet 4; *tail* bushy.

Least ant-eater.

Inhabits *South America*: walks slowly on the heels; feeds only in the night; emits no cry.

Body yellow or bright-reddish; *tongue* spiral; *snout* shorter than in the rest; *ears* small, hid in fur; *hair* long, soft, silky; *tail* tapering, naked at the end and underneath, prehensile; *size* of a squirrel.

Tridactyla. Toes on the fore-feet 3, on the hind 4; *tail* bushy.

Inhabits *India*: travels slowly; climbs trees; defends itself by its broad tail against flies.

Teats 2, pectoral, 6, abdominal; *stripe* on the sides black; *back* with a longitudinal mane; *tail* compressed, black underneath, above tipped with white.

Jubata. Toes on the fore-feet 4, on the hind-feet 5; *tail* bushy.

Great Ant-eater.

Inhabits *South America, Congo*: covers itself with the tail while it sleeps, and against rain.

Stripe on the sides and breast black; *tail* very hairy, hairs long, flattened; *hind-legs* blackish, *fore-legs* whitish, with a black spot about the middle; *tongue* thin, above 2 feet long, and when not protruded folded up in the mouth; *hair* mixed black and white: *length* about 4 feet, of the tail about 2.

2. *Face* shorter; *legs* shorter.

Colour mixed deep-brown and dirty-white; *hair* about the ears long, on the sides longer, bristly: *length* nearly 4 feet.

Tetradactyla. Toes on the fore-feet 4, hind-feet 5; *tail* naked.

Inhabits *South America*: wanders only in the night, sleeps by day; when angry seizes a stick, and fights sitting on its hind-legs.

Tail bald at the extremity, by which it is able to suspend itself from the branches of trees; *stripe* on the breast and side black.

Pentadactyla. Toes on the fore-feet 5; *tail* long, flat, entirely covered with hair.

Striped Ant-eater.

Head thick; upper *jaw* and *snout* very long; *eyes* small; *ears* small, rounded, fringed above with black hairs; *hair* long; *back, head, legs* tawny, *belly* dirty-white; *tail* covered with long

long tawny-yellow hair, annulate with blackish: *length* 13 inches, *height* 10.

Capensis. Toes on the fore-feet 4; snout long; ears large, pendulous; tail shorter than the body, tapering to the tip.

Cape Ant-eater.

Inhabits the *Cape of Good Hope*: larger than the other species, nearly the size of a hog, and weighing almost a hundred pounds; burrows in the ground, sleeps by day, prowls by night.

Aculeata. Body covered with long sharp spines; tail very short.

Porcupine Ant-eater.

Inhabits *New Holland*: size of a rat.

Spines on the back and sides resembling those of the porcupine, white with black tips, and a circle of dull orange between the colours; head and under-parts deep-brown; tail short, naked, a little flattened at the tip, covered at the root with upright spines; eyes small, black, irids blueish; legs short, thick, 5-toed; toes broad, round; claws black, on the hind-feet only 4, the first long, sharp, curved, second shorter, 2 others shorter still.

7. PLATYPUS. Mouth shaped like the bill of a duck: feet palmate.

Anatinus. P.

Duck-billed Platypus:

This singular and newly-discovered animal, as I have never seen it, I can only describe in the words of Dr. SHAW, in whole *Naturalist's Miscellany*, pl. 385 and 386, it is excellently figured.

“Of all the mammalia yet known it seems the most extraordinary in its conformation; exhibiting the perfect resemblance of the beak of a Duck engrafted on the head of a quadruped. So accurate is the similitude that, at first view, it naturally excites the idea of some deceptive preparation by artificial means: the very epidermis, proportion, serratures, manner of opening, and other particulars of the beak of a shoveller, or other broad-billed species of duck, presenting themselves to the view: nor is it without the most minute and rigid examination that we can persuade ourselves of its being the real beak or snout of a quadruped.

“The body is depressed, and has some resemblance to that of an Otter in miniature: it is covered with a very thick, soft, and beaver-like fur, and is of a moderately dark brown above, and of a subferruginous white beneath. The head is flattish, and rather

rather small than large: the *mouth* or snout, as before observed, so exactly resembles that of some broad-billed species of duck that it might be mistaken for such: round the base is a flat, circular membrane, somewhat deeper or wider below than above; viz. below near the fifth of an inch, and above about an eighth. The *tail* is flat, furry like the body, rather short, and obtuse, with an almost bifid termination: it is broader at the base, and gradually lessens to the tip, and is about three inches in length: its colour is similar to that of the body. The *length* of the whole animal from the tip of the beak to that of the tail is thirteen inches: of the beak an inch and half. The *legs* are very short, terminating in a broad web, which on the fore-feet extends to a considerable distance beyond the claws; but on the hind-feet reaches no farther than the roots of the claws. On the *fore-feet* are five claws, strait, strong, and sharp-pointed: the two exterior ones somewhat shorter than the three middle ones. On the *hind-feet* are six claws, longer and more inclining to a curved form than those of the fore-feet: the exterior toe and claw are considerably shorter than the four middle ones: the interior or sixth is seated much higher up than the rest, and resembles a strong, sharp spur. All the legs are hairy above: the fore-feet are naked both above and below; but the hind-feet are hairy above, and naked below. The internal edges of the under *mandible*, (which is narrower than the upper) are serrated or channelled with numerous striæ, as in a duck's bill. The *nostrils* are small and round, and are situated about a quarter of an inch from the tip of the bill, and are about the eighth of an inch distant from each other. There is no appearance of *teeth*: the palate is removed, but seems to have resembled that of a duck: the *tongue* also is wanting in the specimen. The *ears* or auditory foramina are placed about half an inch beyond the eyes: they appear like a pair of oval holes of the eighth of an inch in diameter; there being no external ear. On the upper part of the head, on each side, a little beyond the beak, are situated two smallish, oval, white spots; in the lower part of each of which are imbedded the eyes, or at least the parts allotted to the animal for some kind of vision; for from the thickness of the fur and the smallness of the organs they seem to have been but obscurely calculated for distinct vision, and are probably like those of Moles, and some other animals of that tribe; or perhaps even subcutaneous; the whole apparent diameter of the cavity in which they were placed not exceeding the tenth of an inch.

“When we consider the general form of this animal, and particularly its bill and webbed feet, we shall readily perceive that it must be a resident in watery situations; that it has the habits of digging or burrowing in the banks of rivers, or under ground;

ground; and that its food consists of aquatic plants and animals. This is all that can at present be reasonably guessed a future observations, made in its native regions, will, it hoped, afford us more ample information, and will make fully acquainted with the natural history of an animal which differs so widely from all other quadrupeds, and which verifies in a most striking manner the observation of Buffon; viz. that whatever was possible for Nature to produce has actually been produced.

“On a subject so extraordinary as the present, a degree of scepticism is not only pardonable, but laudable; and I ought perhaps to acknowledge that I almost doubt the testimony of my own eyes with respect to the structure of this animal’s beak; yet must confess that I can perceive no appearance of any deceptive preparation; and the edges of the rictus, the insertion, &c. when tried by the test of maceration in water so as to render every part completely moveable seem perfectly natural; nor can the most accurate examination of experienced anatomists discover any deception in this particular.

“The Platypus is a native of *Australasia* or *New Holland*, and is at present in the possession of Mr. DOBSON, so much distinguished by his exquisite manner of preparing specimens of vegetable anatomy.”

8. MANIS. *Teeth* 0: *tongue* round, *external file*: *mouth* narrowed into a snout; *body* covered above with moveable bony scales.

Pentadactyla. Feet 5-toed. *Short-tailed Manis.*

Inhabits *Guinea, China, India*: when irritated erects its scales; when attacked rolls up; except in the covering very much resembles the ant-eaters.

Scales channelled at the base, imbricate, rounded, sharp at edges; *ears* rounded, naked; *under-parts* naked; *tail* covered wholly with scales: *length* 6—8 feet including tail.

Tetradactyla. Feet 4-toed. *Long-tailed Manis.*

Inhabits *India*: much less.

Scales much channelled, each armed with 3 points; *under-parts* covered with hair; *tail* three times as long as body.

9. DASYP

9. **DASYPUS.** *Tusks* 0: *grinders* short, cylindrical, in each jaw 7—8: *body* covered with a bony shell intersected by zones.

These feed on roots, melons, potatoes, flesh, fish, insects and worms; rest by day, wander by night; burrow in the ground; gentle; defend themselves by rolling into a globular form; chiefly inhabit *South America*; and the females bring forth every month; flesh eatable.

Tricinctus. Bands 3, moveable; toes five. *Three-banded Armadillo.*

Inhabits *Brazil*: feeds on fruits and poultry.

Middle-band narrow; scales knobbed on the surface; eyes small; ears short, rounded; head oblong, covered by a helmet of one piece; 2 middle claws of the fore-feet large: length 1 foot.

Quadricinctus. Bands 4. *Four-banded Armadillo.*

Habitation unknown; a very uncertain species.

Sexcinctus. Bands 6; feet 5-toed. *Six-banded Armadillo.*

Inhabits *South America*: eatable, feeds on fruits and roots, infests plantations.

Body reddish-yellow; teeth 18 in each jaw; neck covered with a shield; penis spiral, glands compressed, thickened at the edge.

Septemcinctus. Bands 7; toes on the fore-feet 4, on the hind-feet 5. *Seven-banded Armadillo.*

Inhabits *India*, and *South America*.

Shield on the shoulder notched on the fore-part; skin between the bands brown.

Octocinctus. Bands 8; shields 2. *Eight-banded Armadillo.*

Inhabits *Brazil*: flesh delicious.

Shields sprinkled with prominent white knobs; bands marked triangularly; back iron-grey; sides whitish-grey spotted with iron-grey; belly whitish.

Nonacinctus. Bands 9; fore-feet 4-toed, hind-feet 5-toed. *Nine-banded Armadillo.*

Inhabits *South America*: flesh delicate.

Crust on the shoulders, rump and head marked with six-sided figures; divisions of the bands with transverse wedge-like marks.

Duodecem- Bands 12; toes 5.
cinctus. Inhabits South America.

Twelve-banded Armadillo.

Covering of the fore-part of the back consists of a series of seven small shields, the hind-part of nine; bands apparently running into one, and was by Linné called *D. Unicinctus*.

Maximus. Bands 12; legs and tail divided into lozenge-shaped scales.
Largest Armadillo.

Inhabits South America: feeds in the night; eatable.

18-cinctus. Bands 18; shield on the rump 0. *18-banded Armadillo.*
Inhabits South America.

Shield only 1, on the shoulder; scales of the armour of the head round, of the neck square; breast, belly, ears, naked; body about 10 inches long, head 3, tail 5.

Longicaudus. Bands 9; tail long, jointed.

Inhabits America: about the size of a cat.

10. RHINOCEROS. *Horn solid, perennial, conic, placed on the nose, not adhering to the bone.*

Unicornis. Horn 1.

One-horned Rhinoceros.

Inhabits marshy places between the Tropics; lives on thorns and spinous plants; may be tamed, and becomes mild, but when enraged will overturn trees with its violence; sight weak, hearing and smelling very acute.

In size, but not in sagacity, resembling the elephant, except that its feet are shorter; in habits and voice, the hog; urines and cohabits backwards; skin hard, resisting swords, arrows and even musket-balls, naked except on the tail and ears; folds transverse, regular; flesh tough, spongy; tongue soft; horn hairy at the base, acute, fibrous, frequently 3 feet long; fore-teeth when old 0, when young straggling, remote, solitary; hoofs 3; tail tapering, shorter than the feet.

Bicornis. Horns 2.

Two-horned Rhinoceros.

Inhabits Africa: and the bones are by PALLAS, said to be often found buried in the north of Russia.

Flesh resembles that of a hog; viscera those of the horse; gall-bladder 0; fore-teeth 0; the second horn shorter, placed over the first.

A variety is rarely found with 3 horns, the third being an excrescence on one of the others.

11. SUKOTYRO.

11. SUKOTYRO. *Horn on each side near the eyes.*

Indians. Mane upright, short, narrow, reaching from the top of the head to the rump.

Inhabits *Java*: thick, clumsy, feeds on herbs.

Snout like a hog, truncate; *ears* long, rough; *tail* thick, bushy; *eyes* placed upright in the head; *hoofs* 4; *skin* smooth, without plaits.

12. ELEPHAS. *Fore-teeth* 0 in either jaw: *tusks*, upper elongate, lower 0: *proboscis* very long, prehensile; *body* nakedish.

Maximus. E.

Elephant.

Inhabits the *Torrid Zone*, in swampy places and by the sides of rivers; feeds on the leaves and branches of young trees, particularly plantains, eating even the wood; devours grain voraciously; gregarious, docile, long-lived, sagacious, though the brain is small; *proboscis* long, extensile, contractile, furnished at the end with a hook, serving the purpose of a hand, with which it takes its food and drink, and which being cut off it is destroyed; is afraid of mice, lest when asleep they should creep into the trachea; urinates backwards, copulates like other quadrupeds; the female is gravid a year; the young suck the mother with the lips; carries houses on its back, its guider sitting upon the neck; moves quickly, swims dexterously; is armed for war by the Indians, and was formerly by the Romans, with scythes.

The largest of quadrupeds, sometimes weighing 4500 pounds; *body* cinereous, seldom reddish or white, thinly set with hairs; *proboscis* flat beneath, tip truncate; *eyes* small; *tusks*, which are only in the upper jaw, far extended beyond the mouth, resemble horns, marked with curled fibres; these are the ivory of the shops, and sometimes weigh 150 pounds each; *ears* large, pendulous, dentate; *skin* thick, callous, impenetrable by musket-balls, and yet sensible of the sting of flies; *teats* 2 near the breast; *knees* flexible; *neck* short; *hoofs* 5 on each fore-foot, 4 on each hind-foot.

F 2

13. TRICHE.

13. **TRICHECHUS.** *Fore-teeth*, (in the adult) 0 in either jaw: *tusks* upper solitary: *grinders* in both jaws consisting of a furrowed bone: *body* oblong: *lips* double: *hind-feet* stretched back, forming a fin.

All inhabit the sea, feed on sea-weeds, coralines and shell-fish, not on flesh.

Rosmarus. Tusks in the upper jaw remote, projecting. *Morse.*

Inhabit near the *Arctic Pole*, at the mouths of rivers; roar like bulls, snore when asleep, gregarious, defend themselves vigorously, if wounded will attempt to sink boats by striking their tusks into the sides.

Fore-teeth in the young 2, small, in the upper jaw; *tusks* very remote, acuminate, sometimes weighing 30 pounds; *ivory* with interwoven fibres not easily turning yellow, the central part brownish; *grinders* 4, small, in each jaw both sides, acute, with an excavation behind the tip; *whiskers* like straws, pellucid; *nostrils* lunar; *neck* thick; *feet* 5-toed, claws short; *skin* made into traces; oil plentiful, much valued: *length* 18 feet.

Durong. Tusks in the upper jaw projecting, approximate.

Indian Walrus,

Inhabits the sea between the *Cape of Good Hope*, and *Philippine* islands; feeds on sea weeds.

Head more acuminate and narrow; *nostrils* larger and placed wider: *fore-teeth* 0; *tusks* in the upper jaw 0; *grinders* broader, distant, in the upper jaw 4, lower 3; *teats* 2, pectoral: *flesh* resembles beef.

Manatus. Tusks 0.

1. *Australis.* Fore-feet 4-toed, clawed.

Inhabits the *African* and *American* seas, near the mouths of rivers, seldom going far from the shore.

Skin black, cinereous; *grinders* 9 in each jaw on both sides, squared, covered with a glassy enamel; *vertebrae* 50.

2. *Borealis.* Hair, toes, claws c.

Inhabits the north-west coast of *America*, frequently entering the mouths of rivers; is tamed by the natives, fond of music; is the Dolphin of the ancients; eats voraciously, lives in families

families of one male and one female with their offspring; feeds on sea weeds, with its back above the water, on which sea-fowl perch to pick off the sea-lice; roars like a bull.

Skin when wet brown, when dry black; instead of *grinders* a rugged bone in each jaw; *vertebrae* 60; *sight* weak, *hearing* acute; *fore-feet* palmate like those of the sea-turtle, instead of *hind-feet* an horizontal tail; *ears* 0; *nostrils* distant, regular; upper *lip* set with rigid incurved bristles; *teats* 2, pectoral: *length* 23 feet; *weight* about 8000 pounds; *flesh* lipid.

3. *Siren*. Ears erect, sharp-pointed.

Inhabits the north-west coast of *America*, swims round ships with antic gestures.

Head resembling a dog; *eyes* large; *lips* whiskered; *body* thick, round, tapering downwards; *tail* divided into 2 unequal lobes; *length* about 5 feet.

ORDER

ORDER III. FERÆ.

Fore-teeth upper 6, sharpish; tusks solitary.

14. PHOCA. *Fore-teeth* acute, upper 6, parallel, outer ones larger; lower 6, parallel, distinct, equal, obtusish: *tusks* twice as long, acute, robust, solitary, the upper remote from the fore-teeth, the lower from the grinders: *grinders* 5—6, narrow, tricuspidate; *ears* 0: *hind-feet* fettered.

This is a dirty, curious, quarrellsome tribe, easily tamed, and polygamous; flesh succulent, tender; fat, and skin useful; they inhabit and swim under water, and crawl on land with difficulty, because of their retracted fore-feet and united hind-feet; feed on fish and marine productions, and swallow stones to prevent hunger, by distending the stomach.

Ursina. Head with external ears. *Ursine Seal.*

Inhabits *Kamtschatka*, *New Zealand*, and the adjacent islands; swims impetuously in large families, copulates on shore, fearless, biting at what is thrown at it; the old ones live by themselves, and grow very fat; each has a peculiar stone for its bed, which it never deserts; the males fight fiercely for their females and stations, their combat is single and fair, two never fighting against one; when grieved it sheds tears plentifully,

Leonina. Body brown; head crested on the fore-part.

Bottle-nosed Seal.

Inhabits about the *South Pole*, and the coast of *Chili*: has a hairy tubercle at the base of the snout, which it inflates into a vesicle, and with which it avoids blows; swims in flocks; fights for its females, and keeps watch.

Teeth 2 in the lower jaw, a little projecting; *eyes* large; *whiskers* white, annulate with red; *feet* all palmate, 5 toes on each, with nails growing out behind the tip; *hind-feet* stretched back, with a tail between, 2 inches long.

Fubata. Neck (of the male) covered with a mane. *Maned Seal.*

Inhabits the northern *Pacific Ocean*, and many of the *American* coasts: roars like a bull.

Colour

Colour reddish, in the young more dusky, in the female more vivid; is larger than the *P. Leonina*; weight about 160 pounds, length 25 feet.

**Vitulæ*. Head without ears; neck smooth; body brown. *Sea Calf*.

2. *Botnica*. Nose broader, claws longer, colour more obscure.

3. *Sibirica*. Colour silvery. Inhabits the lakes *Baikal* & *Orom*.

4. *Caspica*. Colour various.

Inhabits most *Sea Coasts*: sleeps on a stone projecting from the water; the young are at first white and woolly; rises often out of the water to breathe; is easily killed by a blow on the nose; flesh eatable.

Whiskers undulate; *eyes* with a nictitant membrane; crystalline humour globular; *tongue* bifid; the foramen ovale is said to be open.

Monachus. Head without ears; fore-teeth in each jaw 4; fore-feet undivided; hind-feet without nails. *Hooded Seal*.

Inhabits the coast of *Dalmatia*.

Skin of the neck folds into a resemblance of a monk's hood; *hair* short, dusky, spotted with ash; above the *navel* a tawny spot: length 8 feet 7 inches.

Grænicæ. Head smooth without ears; body grey; a lunulate black mark on the sides. *Harp Seal*.

Inhabits *Greenland* and *Newfoundland*: esteemed for the goodness of its skin, and quantity of oil.

Head black, pointed, with short whiskers on the lips and nose; *nails* on the fore and hind-paws.

Hispidæ. Head smooth without ears; body pale brown, rough, with bristly hair. *Rough Seal*.

Inhabits *Greenland* and *Labradore*, feeds on shrimps and small fish; often sleeps on the surface of the water; flesh red, nauseous: 4 feet long.

2. Much larger, weighing 500 pounds.

Cristata. Head on the fore-part crested; body grey. *Crested Seal*.

Inhabits the south coasts of *Greenland*, west of *Iceland* and *Newfoundland*, of a large size; *skin* covered with black, short, thick wool, mixed with white hairs.

**Bariata*. Head smooth without ears; body blackish. *Great Seal*.

Inhabits the coasts of *Scotland*, *Greenland*, and *Iceland*: young ones white when brought forth: length 12 feet.

Puffin.

- Pusilla.* Head smooth with the appearance of ears; body brown. *Little Seal.*
Inhabits the *Mediterranean* sea, *Chili*, and *Juan Fernandez*:
about 2 feet 4 inches long.
- Chilensis.* Snout and ears longish; toes 5 on each foot.
Inhabits the coasts of *Chili*.
- Mutica.* Body slender; claws on the fore-feet 0. *Long-necked Seal.*
- Australis.* Ears short, pointed.
Inhabits *Faulkland Islands*: 4 feet long.
Body cinereous; hairs tipped with dirty-white; nose set with
strong, black bristles; fore-teeth upper transversely furrowed,
lower longitudinally; tusks with a smaller secondary tooth on
each side; grinders conic, with a small process on one side of
each near the base.
- Tesludo.* Head resembling a tortoise; neck slender. *Tortoise Seal.*
Said to inhabit many of the *European* shores, but the species is
very little known.
- Fasciata.* Body blackish; neck, sides and haunches with yellow stripes
resembling harness. *Ribbon Seal.*
Inhabits the *Kurile Islands*: covered with short fine glossy
blackish hair.
- Laniger.* Fore-teeth in each jaw 4; upper lip thick, with long, thick
whiskers; fur soft, uneven. *Leporine Seal.*
Inhabits the *White Sea*, *Iceland*, and the *Frozen Ocean*.
Fore and hind-feet with nails: length $6\frac{1}{2}$ feet.
- Punctata.* Body, head, and limbs speckled. *Speckled Seal.*
Inhabits the seas of *Kamtschatka*, and *Kurile Isles*.
- Maculata.* Body spotted with brown. *Spotted Seal.*
Inhabits the *Kurile* seas; very scarce.
- Nigra.* Hind-legs peculiarly formed. *Black Seal.*
Inhabits the coasts of the *Kurile* seas: peculiar structure of the
hind-legs unknown.

15. CANIS. *Fore-teeth* upper 6, lateral ones longer, distant, intermediate ones lobate; lower 6, lateral ones lobate: *tusks* solitary, incurvate: *grinders* 6—7, or more than in others.

This genus is voracious, tearing what it devours; swift in its course, but cannot climb trees; the female brings forth many at a litter, has usually 10 teats, 4 on the breast, 6 on the belly; *head* flat on the crown, with a lengthened snout; *body* thicker in the fore-part; *penis* knotty; *claws* long, a little curved, and not retractile.

**Famili-
aris.* Tail recurvate, leaning to the left.

1. Ears erect; tail woolly underneath. *Shepherds Dog.*
2. Hair on the head long; ears erect; tail very much curved on the rump. *Wolf Dog.*
3. Ears erect; hair all long. *Siberian Dog.*
4. Ears erect, tips pendulous; hair long, except on the snout. *Iceland Dog.*
5. Hair long, curled like a sheep. *Water Dog.*
6. Legs; hair long, curled, round the ears long and hanging down.
7. Head less, rounded; snout short; tail curved back. *King Charles's Dog.*
8. Ears long, woolly, pendulous. *Spaniel.*
9. Hair soft, silky, very long. *Maltese Dog.*
10. Very small; hair on the belly and tail shorter. *Lion Dog.*
11. Ears small, subpendulous; snout small, acute; legs slender. *Danish Dog.*
12. Ears small, subpendulous; nose thick, flattish. *Bastard Pug-dog.*
13. Nose crooked upwards; ears pendulous; body square. *Pug-dog.*
14. Sides of the lips pendulous; body robust; size of a wolf. *Bull-dog.*
15. Very large; sides of the lips pendulous; body robust. *Mastiff.*
16. Ears pendulous; a spurious claw on the hind-feet. *German Hound.*
17. Ears pendulous; a spurious claw on the hind-feet, whitish. *Hound.*

18. Very sagacious. *Blood Hound.*
 19. Tail truncate, spotted. *Pointer.*
 20. Tail truncate; hair long, coarse. *Barbet.*
 21. Head long; snout robust; ears small, subpendulous; legs long, stout; body long, slender. *Greyhound.*
 22. Body curved; snout narrowing; size of 15. *Irish Greyhound.*
 23. Body curved; snout tapering; hair a little curled; size of 15. *Turkish Greyhound.*
 24. Body curved; snout tapering; size of a wolf. *Common Greyhound.*
 25. Body curved; snout tapering; hair longer, curled; size of a wolf. *Rough Greyhound.*
 26. Legs; body curved; snout tapering. *Italian Greyhound.*
 27. Body naked. *Naked Dog.*
 28. Tall, slender; ears pendulous; hair on the tail very long, hanging down, *Oriental Dog.*
 29. Body narrow; legs stout; tail strong, straight; hair short, thick set. *Lurcher.*
 30. Body narrow; legs stout; tail thick, straight; hair long, rough. *Rough Lurcher.*
 31. Head and snout thick; body narrow behind; feet long; hair long, rough. *Bear Lurcher.*
 32. Legs short; body long, often spotted. *Turnspit.*
 a. Feet straight.
 b. Feet curved.
 c. Hair longer, curled.
 33. Head small; ears pendulous; back curved; tail short; size of 9. *Alco.*
 a. Head white on the fore-part; ears yellowish; neck short; back curved, covered with yellow hair; tail white, short, pendulous; belly large, spotted with black; legs white; prodigiously fat.
 b. With a wild and melancholy air.
 34. Tail bushy, pendulous; ears short, erect; snout pointed. *New Holland Dog.*

Associates with man; perhaps has never been found wild; feeds on flesh, carcases, farinaceous vegetables, but not greens; digests bones; is vomited by grass; dungs upon a stone; drinks by lapping; urines often and sideways, holding up the leg; smells to the anus of others; runs obliquely, resting upon the toes; rarely sweats, when hot lolls out the tongue; when lying down goes often round the place; hears in its sleep; dreams; when in copulation stick together; the female gravid 63 days, and brings 4—12 young, blind at the birth, the males like the dog, females the bitch. Of all animals the most faithful;

ful; fawns at the appearance of its master and defends him, runs before him on his journey, and if the road divides looks back; docile, seeks for what is lost, watchful by night, gives notice of the approach of strangers; watches over what is committed to his care; drives home cattle from the field, keeps them within bounds, and guards them from wild beasts; points out game, and brings what is killed to its master; is made to turn spits, and draw; begs at table, and when it has stolen any thing slinks away with its tail between its legs; eats enviously, looking oblique; domineers over weaker ones; abhors beggars, bites strangers; licks wounds; howls at music; bites a stone thrown at it; stinks, and is sick before a storm; is troubled with worms; becomes mad and communicates the disorder by biting; when old grows blind and gnaws itself; howls if empyreumatic oil is rubbed on the tail; is afflicted with gonorrhæa, is banished as unclean by the Mahometans; has an exquisite sense of smell.

Head carinate on the crown; *lower lip* hid, the sides dentate, naked; *rows of whiskers* 5—6; *nostrils* turned outwards into a semilunar furrow; *ears*, the upper margin reflected, posterior doubled, anterior three-lobed; *warts* on the face hairy, 7; *sutures* of the fur 8; *teats* 10, 4 on the breast; *feet* subpalmate.

**Lupus*.

Tail bent inwards.

Wolf.

Inhabits *Europe, Asia, Africa, and North America*: hunts in packs, and destroys cattle; suspicious, being hardly heard in the woods, fearful of a rope drawn along the ground; will not pass through a door but leaps over the fence; dreads the sound of a trumpet; exquisite in the sense of smelling; patient of extreme hunger and cold; devours man and even its own species, howls in the night, and is destroyed by the *Lichen Vulpinum*: female gravid 10 weeks, brings 5—9 young, which are blind at the birth.

Head long; *nose* pointed, *ears* erect, sharp; *tail* bushy, pendulous, black at the tip; *head and neck* cinereous, *body* pale brown tinged with yellow.

1. Yellow. Inhabits *France and Germany*.
2. White. Inhabits *Russia*.
3. Black. Inhabits *Canada*.
4. Grey striped with black. Inhabits the *Cape of Good Hope*.

Mexicanus **Tail smooth, bent downwards; body cinereous, variegated with brown stripes and tawny spots.** *Mexican Wolf.*

2. Uniformly white.

Inhabits the warmer parts of *Mexico*,

G 2

Thous.

Thous. Tail smooth, bent downwards; body greyish, white underneath. *Surinam Wolf.*

Ears erect, of the colour of the body; a wart above the eyes, on the cheeks, and under the throat; tongue fringed at the sides; size of a cat.

Hyæna. Tail straight; hair on the neck erect; ears naked; feet 4-toed, *Striped Hyæna.*

Inhabits the *East, Persia, and Africa*: burrows in the ground, dwells in caves; lives long without food; infests burying-grounds, tearing up and devouring the bodies; when angry seizes whatever is presented to it, and never quits it alive.

Hair on the back near a span long, erect, with black points; eyes near the snout; ears naked; tail often verticillate with black rings; streaks of the body brown and black, transverse from the back to the belly; between the anus and tail a duct secreting a fetid matter.

Æthiopicus. Tail bushy; body with curved stripes. *Abyssinian Hyæna.*
Inhabits *Abyssinia*, and north-east of *Africa*.

Body yellowish-brown, with curved black stripes like a reversed italic *s*; face black; legs striped across with black; tail reddish-brown.

Crocuta. Tail straight; body spotted with black; feet 4-toed.

Spotted Hyæna.

Inhabits *Guinea, Æthiopia, Cape of Good Hope*: lives in hollow places; preys by night on sheep, devours carcases, attacks man; its voice terrible.

Face, head, black above; mane short, black; hair short, soft, reddish-brown, with round black spots; tail short, black, bushy.

Aureus. Tail straight; body pale tawny. *Jackal.*

Inhabits the warm parts of *Asia*, and *Barbary*: lurks by day in mountains and woods; walks slow, hanging its head, but runs swiftly with its prey; prowls by night in flocks of 200; attacks children, and feeds on the lesser animals, birds, fruits, and carcases dug from the earth; female gravid 1 month, brings forth 5—8 young; easily tamed, smells of musk; at the cry of one, all within hearing howl hideously, and urge other beasts to hunt the stag, while the lion or tiger lying in wait, seizes the prey, and as the king of the forest satisfies his hunger, and leaves to the crouching jackal the remainder, whence originates the tale of the jackal being the lion's provider.

Body

Body upper part tawny, blackish on the back, lower yellowish-white; ears short, erect, pointed, white and hairy within; tail tapering both ways, tip with black; length 29 inches.

Arcticus. Tail straight; body rusty; band on the back black.

Common at the *Cape of Good Hope*: 27 inches long.

Face resembling a fox; ears erect, yellowish-brown; throat, breast and belly white; tail yellowish-brown, with a longitudinal black stripe on the upper part, towards the end 2 black rings, tip with white; sides pale brown.

Lyam. Tail straight; body black.

Black Fox.

Inhabits *Europe*, *Asia*, and the colder parts of *America*; the most crafty of its tribe.

Colour entirely black, or variegated with greyish; hairs often silvery at the tips; skin very precious.

White. Tail straight, tip with white.

Fox.

Inhabits *Europe*, *Asia*, *Africa*, *America* as far as *Chili*: very cunning; feeds on lambs, poultry, small birds, but not on birds whose flesh is rank, and the dung of other animals, fattens on grapes; preys far from home; howls at night; fearful of fire-arms and the smell of powder; is chased by smoke; emits a rank odour from the base of the tail.

Body tawny; fore-feet and tips of the erect ears black, rarely white; lips white.

Arcticus. Tail straight; tip black.

Brant Fox.

Inhabits *Europe*, *Asia*, and *Chili*: less, rather darker.

1. Tail black above, red beneath, sides cinereous.

2. Feet coal black. Colour silvery grey, tail tip with white.

Caspian. Tail straight, tawny, base and tip black.

Inhabits *Asiatic Russia*: preys on birds, stinks, howls or barks, less than the fox.

Hair soft, downy; tail bushy, as long as the body.

Arcticus. Tail straight; body grey; ears black.

Inhabits the deserts of the *Kalmucs* and *Kirgisees*.

Carolinensis. Tail straight; body cinereous; neck tawny at the sides.

Inhabits *North America*: smaller than the fox.

Carolinensis. Tail straight; body whitish-ash.

Grey Fox.

Inhabits *Carolina*, and warm parts of *North America*: lives in hollow trunks of trees; easily tamed.

Lagopus.

Lagopus. Tail straight; feet very hairy. *Arctic Fox.*
 Inhabits round the *Frozen Sea*, and *North America*: lives in
 clefts, or burrows on the naked mountains; eats mice, geese,
 and if pressed, berries and shell-fish; has the bark but not the
 smell of the fox; gravid 9 weeks; fur valuable.

1. White.

2. Blueish.

Crucigera. Tawny; a black cross on the shoulders. *Cross Fox.*
 Inhabits cold countries; fur thick, soft, valuable.

Chilensis. Tail straight, long, tip smooth, of the same colour.
 Inhabits *Chili*.

Australis. Tail bushy, hanging down, tipped with white; ears short,
 erect, pointed. *Wolf Fox.*
 Inhabits *America*, *Falkland Islands*, near the shores: lives in
 dens; feeds on sea-fowl; tame, barks, stinks.
 Body cinereous; ears lined with white hair.

Cerdo. Tail straight; body pale; ears rosy, erect, long.
 Inhabits the desert of *Zaara*, and *Libia*: less than the rest of its
 tribe, swift, climbs, feeds on locusts and other insects; yelps
 like a young dog.
 Body white mixed with grey and bright-yellow; ears on the
 middle within with white hairs; claws short, retractile.

16. FELIS. Fore-teeth, intermediate ones equal: grinders 3: tongue prickly back- wards: claws retractile.

A tribe temperate in its habits; easily climbs trees; swift; sees
 best by night; when falling from a height alights on the feet;
 the glans penis mucronate backwards; suddenly springs on its
 prey, sucks the blood and then devours it; waves the tail
 when in sight of the prey; except from necessity refuses ve-
 getables; females bring many young; teats 8; 4 pectoral,
 4 abdominal.

A. Tails long, ears plain.

Leo. Body pale tawny. *Lion.*
 Inhabits *Africa*; more rare in the deserts of *Persia*, *India*, *Japan*:
 mild; preys on horses and other larger quadrupeds, and when
 pressed by hunger on man; afraid of flame; restrained by
 dogs;

dogs; urines backwards; when young is easily tamed: roars horribly; sleeps in the sun, eats every third day; lazy, slow; leaps upon its prey; breath fetid; smell weak; its flesh is eaten by the Africans.

Head large, rounded; *forehead* square; *eyes* very large; *lips* pendulous; *heart* large; *male* a fourth part larger than the female, sometimes 8 feet long; *chest* shaggy; sides of the *head* and *neck* with a yellowish-brown mane about 2 feet long; *tail* bushy at the extremity.

Tigris. Body with dark long streaks. *Tiger.*

Inhabits the warmer parts of *Asia*, *China*, *Japan*, and *India*: lives in woods and thickets, near rivers; cunning, cruel, strong, of vast swiftness; infesting and desolating man especially in *India*; even when tamed from the birth will exercise his ferocity as soon as liberated; the male destroys his own progeny; will even attack a lion; bounds from ambush upon its prey; has fetid breath; the most beautiful of wild beasts.

Body smooth, pale yellow with transverse black stripes: *length* 12—15 feet.

Pardus. Body upper parts marked with circular spots, lower with stripes. *Panther.*

Inhabits *Africa*, and the hot parts of *Asia*: does not attack man unless provoked; enters houses by night and destroys cats; in its habits resembles the tiger.

Colour bright tawny; *spots* black; *streaks* dusky: *length* 7 feet.

Uncia. Body whitish, with irregular black spots. *Ounce.*

Inhabits the north of *Africa*, *Persia*, and *Hyrcania*: less and milder than the former, may be tamed and trained to the chase: *length* about $3\frac{1}{2}$ feet.

Leopardus Body yellow with black spots, nearly contiguous. *Leopard.*
Inhabits *Africa*; hardly larger than the former, and similar in habits.

Onca. Body yellowish with black roundish-angular spots, yellow in the middle. *Brazilian Tiger.*

Inhabits the whole of *South America*: in cruelty, but not in courage, resembles the tiger, leaping from ambush with three bounds upon its prey; fastens upon the shoulders of a horse, and carries away animals thrice its own size; having tasted human blood ever after prefers it; eats even fish, devouring crocodiles; is driven away by fire.

Belly white with black spots, and the *legs* with smaller spots; *tail* half the length of the body, with long black spots.

Pardalis.

- Pardalis.** Body upper part striped, lower spotted. *Mexican Cat.*
 Inhabits *South America*, and *New Spain*: runs up trees at the sight of dogs or men; ferocious, untameable; deceives monkeys by lying as if dead, and then seizes them.
 Body above brown, beneath whitish, with lines and black spots sprinkled lengthways; on the feet and belly only spots; fur with broad lines white and brown; ears bifid at the margin without pencils of hair; toes 5:4; tail with circular rings; whiskers 4 rows of 3—5 white bristles, black at the roots, long as the head: length 4 feet, height $2\frac{1}{2}$.
- Jubata.** Body tawny, with black spots; neck maned. *Hunting Leopard.*
 Inhabits *South Africa*, and *India*: is tamed for hunting.
- Discolor.** Body generally black. *Black Tiger.*
 Inhabits *South America*, strong and cruel: size of a calf.
 Hair short, shining, brownish-black; upper lip and feet whitish; lower lip, throat, breast, and belly, darker.
- Concolor.** Body tawny, without spots. *Brown Tiger.*
 Inhabits *Canada*, and *Patagonia*: fierce, cunning, climbs trees, dreads fire, rarely attacks man; in size and habits resembles the tiger.
- Couguar.** Body very thin, long.
 Inhabits the mountains of *North America*.
 Body above reddish-tawny, beneath whitish; length about 4 feet.
- Tigrina.** Body tawny above with black streaks and spots; beneath whitish. *Cayenne Tiger.*
 Inhabits *South America*: preys on birds, not tameable, in habits and size resembles a cat.
- Mexicana.** Body blue-grey, with short black streaks. *Mexican Tiger.*
 Inhabits *New Spain*: about 4 feet long.
- Bengalensis.** Body above pale tawny, with three rows of short black stripes along the back; behind the shoulder a black perpendicular stripe. *Bengal Tiger.*
 Inhabits *Bengal*: rather less than the common cat.
 Head and face striped downwards with black; chin and belly white, with a black semicircle; breast and belly white,

round black spots; ears large, dusky, a white spot in the middle on the outside; tail long, hairy, brown, annulate with black.

Captiv. Body tawny, above streaked, beneath spotted; ears naked, with a lunate white spot. *Cape Tiger-cat.*

Inhabits woody mountains at the *Cape of Good Hope*: mild, easily tamed; preys on hares and antelopes.

Face with longitudinal black stripes; *belly* white; *tail* tawny, spotted with black, or annulate.

Manul. Tail annulate with black; head spotted with black and 2 lateral black streaks.

Inhabits the wastes of *Tartary*, and *Asia*; preys on hares.

Body tawny; *feet* striped obliquely with black; *tail* of an equal thickness, with 10 black rings.

Serval. Body above brown, with black spots; orbits and belly white.

Inhabits *India*, and *Thibet*: found in trees; flies from man unless enraged; not to be tamed; preys on birds.

* *Catus.* Tail annulate.

1. Tail annulate with brown; body with blackish stripes, 3 dorsal ones longitudinal, lateral ones spiral. *Wild Cat.*

2. Legs; hair shorter, thicker. *Domestic Cat.*

3. Hair longer, silvery, silky, longest on the neck. *Angora Cat.*

4. Variegated with black, white, and orange.

Tortoise-shell Cat.

5. Hair blue-grey.

Blue Cat.

6. A red stripe from the head down the back. *Red Cat.*

7. Ears pendulous; hair shining, variegated with black and yellow.

Chinese Cat.

8. Reddish-yellow; head long, snout sharp; legs short, claws weak; ears round, flat.

Yellow Cat.

9. Tail twisted.

Madagascar Cat.

Inhabits woods of *Europe* and *Asia*: domesticated every where; when tranquil purrs, moving the tail; when irritated is very active, climbs, spits, emits a fetid odour; eyes shine at night, the pupil in the day a perpendicular line, by night large, round; walks with its claws drawn in; drinks sparingly; urine of the male corrosive; breath fetid; buries its excrements; makes a horrid mewling in its amours; mews after and plays with its kittens; wags its tail when looking after prey; the lion of mice, birds, and the smaller quadrupeds; peaceful among its tribe; eats flesh and fish, refuses hot or salted things, and vegetables; washes behind its ears before a

stom; back electric in the dark; when thrown up, falls on its feet; is not infested with fleas; gravid 63 days, brings 3—9 young, blind 9 days; delights in marum, cat-mint and valerian.

B. Tails short, ears pencilled at the tip.

Chaus. Tail annulate near the tip which is black; body brownish-yellow; ears brown outwards, bearded and black at the tip. *Caspian Lynx.*

Inhabits woods and marshes of the *Caspian sea*; ferocious; resembles the wild cat in its habits; forsakes cultivated places; seldom climbs trees; wanders by night among swamps and fields, preying on fish, mice and birds.

Montana. Ears upright, pointed, with 2 brown transverse streaks.

Mountain Lynx.

Inhabits *North America*: gentle; grows very fat: about $2\frac{1}{2}$ feet long.

Head and upper parts reddish-brown, with long narrow stripes on the *back*; numerous small round spots on the *sides* and *legs*; *belly* whitish; *chin* and *throat* pure white; *tail* annulate with black.

Caracal. Body pale reddish-brown; ears black outwards, tips black bearded. *Persian Lynx.*

Inhabits *Barbary*, *Persia*, and *India*: preys by night; tamed for hunting; gland smooth.

2. Tail long as the hind-legs. Inhabits *Bengal*.

3. Legs black on the back parts; tail with 4 black rings at the extremity. Inhabits *Lybia* and *Barbary*.

4. Tail white, with 4 black rings at the extremity. *Lybia*.

Rufa. Tail underneath and at the tip white, above black-banded; body tawny, spotted with brown; ears bearded at the tip. *Bay Lynx.*

Inhabits *New York*: large again as a cat.

Forehead perpendicularly striped; *upper lip* each side with 3 rows of small black spots; under parts white.

Lynx. Tail obscurely annulate, black at the tip; head and body whitish-tawny spotted with black; ears bearded at the tip. *Lynx.*

2. White, with dark spots.

3. Upper parts whitish-yellow, beneath white.

4. Yellowish-white, with dusky spots.

Inhabits

Inhabits *Europe, Asia, America, and Japan*, among the thickest woods; preys on deer and the lesser quadrupeds, and if urged by hunger on its own tribe; devours flocks in the fold; cunning, acute in sight and smell; gravid 9 weeks, brings 3—4 young.

Size of a fox, 2) somewhat less; *tail* shorter than the thighs; a linear brown mark behind the eyes; *fore-feet* very large.

17. VIVERRA. *Fore-teeth* 6, intermediate ones shorter: *tusks* 1 each side, longer: *grinders* more than 3: *tongue* often acute backwards: *claws* not retractile.

Their bodies are long, of equal thickness, legs short, usually with 5 toes, claws immovable, ears small, snout pointed; between the anus and genitals an orifice leading to a duct secreting an unctuous fetid matter; active and swift, some walk on the heels, some climb, and some burrow; females produce many at a litter.

Ichneumon Tail thick at the base, tapering, tip tufted; great toes remote.

Inhabits *Egypt*, on the banks of the *Nile*, retiring to fields and gardens during the inundation; is tamed and kept in houses to destroy mice; feeds on poultry, worms, insects, serpents, frogs, lizards, and crocodile's eggs; destroys cats and weasels; fierce and crafty; walks on the heels.

Forehead flat; upper lip prominent; ears rounded; whiskers a single row at the margin of each lip; tongue rough; tail length of the body; orifice under the anus open in hot weather; hair verticillate with whitish and dark-grey: size of a cat.

Mungo. Tail thick at the base, tapering, not tufted; great toes remote.

Inhabits *Bengal, Persia*, and the hot parts of *Asia*; resembles the last, but smaller and smoother; fights with serpents, and when bitten is said to have recourse to the ophiorhiza; when tamed follows like a dog; cleanly, impatient of cold.

Catta. Tail thick at the base, tapering, tip with black.

Inhabits the *Cape of Good Hope*; resembles the polecat, but larger. Ears short, hairy; whiskers a single series, black; hair shining, coarse, mixed yellow-brown and black; feet black.

- Nems.* Tail thick at the base, tapering, of an uniform colour.
Inhabits the east of *Africa*,
Snout sharp; whiskers 0; ears naked; body upper part tawny and dirty-white; belly bright-yellow; head and orbits yellowish; paws 4-toed, with a small one behind; claws small, black.
- Zenik.* Feet 4-toed; body grey, with 10 transverse black bands; tail dark-tawny, black towards the tip.
Inhabits the country of the *Hottentots*; size of the water rat.
Claws of the fore-feet long, nearly straight, of the hind-feet short, hooked; tail slender; snout elongated; teeth, according to Sonnerat, fore-teeth 2 in each jaw, tusks 6.
- Tetradactyla.* Feet 4-toed; snout long, moveable.
Inhabits *Africa*, and *Java*; a foot long; feeds on flesh, fish, burrows with its fore-feet; easily tamed, gentle.
Head depressed; upper jaw longer, nose black at the tip; whiskers growing from warty excrescencies; hair on the back waved black, hoary at the tips; tail truncate, tufted.
- Nasua.* Tawny; tail annulate with white; snout long, moveable.
Brasilian Weese
Inhabits *South America*; digs for worms, feeds on mice, apple bread; when irritated smells intolerably.
A white spot above, beneath, and behind the eyes; ears small, black; over the upper eyelid, under the eye, in the cheek and under the throat, a wart; throat yellowish; nose lengthened into a proboscis, truncate inwards without a furrow on the lip; lateral, upper fore-teeth larger, middle, lower convergent; tongue lobate like an oak leaf; tail erect, longer than the body, brown, with 10 pale rings, depressed, with spreading hairs, compressed at the tip; toes 5 approximate; claws acute, compressed, scandent.
- Narica.* Brownish, tail of the same colour; nose elongated, moveable.
Inhabits *South America*; digs so deep as to bury itself except the tail; feeds on worms, bread, fruit, and roots; takes to water, climbs trees.
Hair dusky at the roots, brown in the middle, yellow at the tips; tail sometimes obscurely annulate; feet black, naked.
- Vulpecula.* Entirely chesnut; snout elongated.
Inhabits *North America*, and *Mexico*; of a most filthy odour; feeds on worms, beetles, birds; whiskers black; fore-feet 4-toed; length 16 inches.

Quas

Quagga. Chestnut, yellowish beneath; snout lengthened; tail annulate.

Inhabits *Surinam*; digs; feeds on worms, insects, and fruit; tameable, fetid.

Pringi. Blackish with 5 dorsal, parallel, whitish lines.

Striated Weasel.

Inhabits *North America*; digs holes, climbs; sleeps by day, prowls by night; feeds on worms, insects, birds, and sheep; when pursued by dogs contracts itself; if irritated emits so intolerable an odour, that clothes, furniture, and whatever has been contaminated must be purified by burying.

Size of the martin; colour underneath variegated with black and white; claws 5:5, anterior compressed, long, posterior shorter, hollowed underneath; snout naked, whiskers in 3 rows; head subglobular; neck short; fore-feet shorter, claws long, hind-claws short; tail horizontal, white at the tip, with very long hair; penis with a cartilagenous bone.

Mephitis. Back white, with a longitudinal black line from the middle to the tail.

Skunk.

Inhabits *America*; easily tamed; defends itself by an intolerable odour; hunts for eggs: 16 inches long.

Hair long, shining; tail generally white.

Conspall. Blackish, with 2 white dorsal lines reaching down the tail. Inhabits *New Spain*.

Zorilla. Variegated with black and white.

Inhabits *South America*.

Snout short, blunt; variegated bands irregular, longitudinal and transverse; hair long, shining; tail upper half black, lower white.

Mepurito. Black, with a snowy band from the forehead to the middle of the back.

Inhabits *New Spain*; sleeps by day, prowls by night; swift; feeds on worms and insects; digs deep holes: 20 inches long.

Head small; snout long; tongue smooth; tail white at the tip, 9 inches long; feet 5-toed, resting on the heels; claws long.

Pasta. Blackish, with a white fillet from the forehead to the shoulders.

Grey Weasel.

Inhabits *Surinam*.

Feet 5-toed; tail shorter than the body, hair shorter; ears short; claws yellowish; body 7 inches.

Zeylanica.

- Zeylanica.* Above cinereous mixed with brown, beneath whitish.
 Inhabit *Ceylon*; in size and habits resembling the martin.
Feet 5-toed; *claws* a little retractile; *tail* as long as the body, thicker at the base; *whiskers* in 5 rows, white; lower *lip* dentate; upper *fore-teeth*, the lateral longer conic, the middle obtuse; *tongue* warty.
- Capensis.* Black; back grey, edged with white. *Cape Weesel.*
 Inhabits the *Cape of Good Hope*, and *Guinea*; feeds on wild honey; emits an intolerable vapour.
Ears 0; *hair* long, rough; 2 feet long, tail 8 inches.
- Civetta.* Tail above spotted, brown towards the tip; mane chestnut; back spotted with cinereous and brown. *Civet.*
 Inhabits *Æthiopia*, *Guinea*, *Congo*, and *Cape of Good Hope*.
 Under the eyes a spot; back covered with rounded chestnut spots which towards the thighs run into streaks; legs blackish-brown; *grinders* each side each jaw 6; *snout* sharp, black at the tip. The perfume named civet is produced by this and the next species, from the orifice under the anus: size of a cat.
- Zibetha.* Tail annulate; back with grey and black waved streaks.
 Inhabits *Arabia*, *Malabar*, *Siam*, and the *Philippine isles*; ferocious, hardly tameable, and easily returning to its original wildness; when angry erects the hair of the back; bites; eats small animals, birds, fish, roots and fruit; climbs and runs with ease.
Body slenderer than the civet; *snout* longer, concave above; *ears* covered, shorter; *fore-teeth* upper 6, parallel, intermediate ones less; lower parallel, intermediate ones shorter, alternately placed within; *hair* coarse, close; *feet* brown, beneath black: length $2\frac{1}{2}$ feet; produces civet.
- Hermaphrodita.* Tail long, black at the tip; back with three black streaks.
 Inhabits *Barbary*.
Snout from the tip to the eyes and beyond black; *throat*, *whiskers*, *feet*, black; beneath the eyes and between the whiskers a white spot; *hair* long, cinereous, tipped with black; *tail* longer than the body; *claws* yellow; between the penis and anus a naked tender skin, with a double fold.
- Genetta.* Tail annulate; body spotted, blackish-tawny. *Genet.*
 Inhabits western *Asia*, *Spain*, and *France*: mild and easily tamed; hunts mice, smells of musk, but weakly: 17 inches long.
Snout more acute, *feet* shorter, *tail* longer than the zibet; *grinders* on each side 6; *hair* cinereous, black, or tawny at the tips.
Gallica.

Gallica. Tail long, bushy, the first third whitish-grey with black hairs, lower two-thirds black.

Fierce, biting, feeds on flesh: 20 inches long, tail 16:

Head long; *ears* round, black; *whiskers* long, black, flat on the cheeks; *nostrils* arched; *eyes* with a white spot above, a white line beneath; *body* whitish-grey, with large black hairs; *back* on the upper part striped and spotted with black; *belly* whitish; *legs* black; *paws* 5-toed, *claws* white, crooked.

Annulata. Tail long, annulate; face with a white spot each side the nose, and outer side of each eye.

Size of the last: *sides*, *rump*, and upper part of the *legs* cinereous, with scattered black spots; *nose* at the tip, *cheeks*, and *throat*, black; *ears* large, upright, thin, naked, black, behind each a black line to the shoulder; *tail* cinereous mixed with tawny near the base, annulate with black.

Fossa. Tail annulate; body cinereous spotted with black.

Inhabits *Madagascar*, and *Africa*; wild, ferocious; feeds on flesh; fruit, has not the civet odour.

Body slender, cinereous, obscurely spotted with black; from the *head* to the shoulders 4 black lines; *belly* dirty-white; *eyes* large, black.

Tigris. Tail annulate, brown at the tip; body cinereous spotted with brown, with a black streak from the head to the tail.

Inhabits the *Cape of Good Hope*; size of a common cat; fond of flesh, especially birds; has no civet odour.

Head round; *nose* short; *whiskers* white; *cheeks* yellowish-white; a round black spot each side the nose; *forehead* with a dusky line down the middle.

Caracul. Yellow mixed with black; tail of the same colour, prehensile. *Yellow Weasel.*

Inhabits *Jamaica*; tame, playful, climbs trees.

Head broad, flat; *ears* broad, pendent, distant; from the head to the tail, and from the middle of the belly to the tail, a broad dusky stripe.

Prima. Olive-yellow mixed with grey and brown; tail long, prehensile. *Mexican Weasel.*

Inhabits *New Spain*; resembles the last but is larger, sits up, catches with its paws, is fond of sugar, sweet meats, fruit and vegetables; kills poultry, and sucks the blood from under the wing.

Nose

Nose dusky, *tongue* very long; *ears* short, rounded, dusky; *belly* yellowish-white; under part of the *paws* naked, vermillion; *claws* 5 on each foot, hooked, channeled beneath.

Mellivora. Back cinereous; lateral band black; belly black; claws long, hollow underneath, formed for digging.

Inhabits the *Cape of Good Hope*; feeds on wild honey and wax, to which it is guided by the *cuculus indicator*, or honey-guide cuckoo, which feeds on bees.

Fasciata. Hair of the tail long, black and tawnyish; body grey, with 6 black longitudinal stripes, beneath white.

Striped Fitchet.

Inhabits *India*: 2 feet 9 inches long.

Fore-teeth in each jaw 2, *tusks* 14; *feet* 5-toed; *claws* strong, hooked; *eyes* vivid.

Malaccensis. Tail long, annulate with black; body grey, dotted above with black; above the eyes 4 round spots; on the neck and back 3 black stripes.

Inhabits *Malacca*; fierce, active, leaping from tree to tree, lives by prey, smells of musk, retains its urine a long time, which is used by the Malays as an aphrodisiac and strengthener: size and habits of a cat.

Body with 6 rows of small, black spots, 7 in a row; *head* on the upper part, *thighs*, and *legs* black; *claws* 5, hooked, sharp, retractile; *snout* long.

Maculata. Body, legs, and tail, black, irregularly spotted with white.

Spotted Fitchet.

Inhabits *New South Wales*; about $1\frac{1}{2}$ foot long.

Face long; *ears* large, blunt, erect; *whiskers* long, reversed; *tail* long, taper; *feet* long, resting on the heels, 5-toed, the inner toe of the hind-feet separated from the rest, small, short.

18. *MUSTELA*. *Fore-teeth* upper 6, erect, acuter, distinct, lower 6, obtuser, crowded, 2 placed within: *tongue* smooth.

In many circumstances the *otters* and *weasels* resemble each other; body long, of the same thickness, feet short, hair shining, claws immovable, burrow in the ground, prowl and prey by night; but the *otters* live mostly in the water, swim on the

the surface and under, feed chiefly on fish; do not climb, or leap with the body curved and tail stretched out like the *weefels*, head larger and thicker, tongue strewed with soft prickles; *otters* have 5 grinders in each jaw on each side; *weefels* 4 : 5, or 5 : 6.

A. *Hind-feet palmate.* Otters.

Lutris. Hind-feet hairy; tail a fourth part as long as the body.

Sea Otter.

2. Black, with a yellow spot under the throat.

Inhabits the coasts between *Asia* and *America*, 2) in the rivers of *South America*; lives mostly in the sea; harmless, runs and swims swiftly, feeds on lobsters, shell-fish; female breeds once a year, brings one at a time; fur valuable.

Head depressed; *ears* small, hairy, rounded; *mouth* obtusish; *whiskers* many, stiff, above and behind the eyes, at the corners of the mouth, sides of the lower lip, and under the throat; *fore-teeth* upper 6 equal, lower 6 the 2 alternate interior, the 2 lateral bilobate; *toes* 5 on each foot, all palmate: 2) *tail* depressed, a little shorter than the body; *head* dusky; *throat* yellow.

Paraguayensis. Mixed grey and black; feet palmate.

Inhabits on the *Rio de la plata*; size of a cat; fur velvety, flesh delicate.

Chilensis. Tail long, round; feet hairy.

Inhabits the coasts of *Chili*.

• *Lutra.* Hind-feet naked; tail half the length of the body. *Otter.*

Inhabits *Europe*, *North America*, *Asia* as far as *Persia*, in fresh-water rivers, lakes and fish-ponds, but never in the sea; feeds on fish, frogs, crabs; destructive to fish-ponds; lives underground, in holes opening beneath the surface of the water; crafty, biting, sometimes tamed to catch fish; the male calls the female by a soft murmuring cry; gravid 3 months, brings forth 3—4 young.

Fur deep brown; *spots* 2 each side the nose, small, white, and one under the chin; *throat* and *breast* cinereous; *whiskers* large; *ears* short; *neck* short, thick; *feet* 5-toed: *length* 2 feet, *tail* 16 inches.

Canadensis. Black; fur smooth; tail long, taper.

Inhabits *North America*.

Lutreola. Feet very hairy, toes equal; mouth white. *Lesser Otter.*
 Inhabits marshy places in *Germany, Poland, Finland, Russia,*
and Siberia; feeds on fish and frogs; fetid; fur valuable.
Body tawny mixed with dusky, shorter hairs yellowish, longer,
 black; *crown* hoary; *chin* white; *tail* dusky, broad, darker
 towards the end.

Cayennensis. Toes on the fore-feet unconnected; tail long, taper, naked. *Cayenne Otter.*
 Inhabits *Cayenne*; 7 inches long.
Body with large brownish-black spots, yellowish-grey between,
 under parts white; over each eye a white spot; *ears* large,
 round; *mouth* whiskered; *tail* round above, flat beneath,
 white at the tip, covered with a rough granulated skin.

Minx. Body entirely deep chestnut. *Minx.*
 Inhabits *North America*, on the banks of rivers: feeds on fish,
 birds, mice; sometimes haunts farm-yards.

B. Feet cleft. Weesels.

Barbata. Black; a white 3-lobed spot under the neck. *Guinea Weesel.*
 Inhabits *Guinea*, and *Brazil*; size of the martin.
Hair coarse; *ears* rounded, hairy; space between the eyes cin-
 ereous; *teats* 4, behind the navel.

Galera. Body uniformly brown. *Brown Weesel.*
 Inhabits *Guinea*, and *Madagascar*; burrows like a rabbit, de-
 structive to game and poultry: size of a rabbit.
Body shaped like a rat; lower jaw shorter; eyes midway be-
 tween the ears and tip of the nose; *ears* flat, round; *tongue*
 rough; *tail* pendent, tapering; *feet* strong, formed for dig-
 ging: *fur* rough.

Afra. Body above brown, beneath pale yellow; tail blackish at
 the tip. *Madagascar Weesel.*
 Inhabits *Madagascar*, and interior parts of *Africa*.
Hair brown at the roots, annulate above with black and rusty-
 brown; *ears* short: *grinders*, upper 6 each side, lower 5:
length 14 inches, tail 10.

Vifon. Body bright tawny; tail dusky.
 Inhabits *North America*; resembles the martin.
Ears rounded; beneath the hair a thick, soft down, cinereous
 tipped with rusty-brown: *length* 17 inches, tail 9.
Canadensis.

Canadensis. Body blackish-tawny; on the breast a white spot. *Pekan.*
Inhabits *Canada*; about 2 feet long, tail 10 inches.

Hair soft, glossy, cinereous at the roots, tawny at the tips; *ears* a little pointed; *whiskers* long, strong; *sides* greyish; *legs* and *tail* black; *spot* between the fore-legs white; *toes* hairy; *claws* sharp.

Fenn. Body blackish-tawny; throat and breast white. *Martin.*

Inhabits most parts of southern *Europe*; preys by night on poultry, eggs, frogs, birds, and ripe fruit; an enemy to cats; easily tamed when young; female brings 3—7 young, and breeds in hollow trees,

Hair on the body, sides and legs cinereous at the root, chestnut in the middle, black at the tip; *head* brown tinged with reddish; *ears* broad, rounded; *eyes* lively; *belly* deep brown; *feet* hairy; *claws* white: length 18 inches, tail 10.

Martin. Body blackish-tawny; throat and breast yellow.

Pine Martin.

Inhabits the north of *Europe*, *Asia*, and *America*, rarely the south of *Europe*; preys by night; lives by day in hollow trees and squirrel's nests; feeds on young squirrels, mice, birds, berries, ripe fruits and honey, in the winter devours pigeons and poultry; gravid 9 months, brings 7—8 young; fur valuable,

Head shorter; *feet* longer than the last.

Guianensis Dark-brown; forehead white; neck with a long, narrow stripe along the side. *Guinea Martin.*

Inhabits *Guinea*; near 2 feet long, tail 5 inches.

Fur sprinkled with black and white; *snout* long, black; *crown* whitish-grey; *belly* chestnut.

Laniger. Body covered with woolly hair; tail long, taper.

Woolly Martin.

Inhabits *Cayenne*; near 16 inches long, tail 9.

Snout long, slender; upper jaw longer; *ears* short, rounded; *legs* short.

Zibellina. Body dark-tawny; forehead white; throat cinereous. *Sable.*

2. Snowy-white.

3. A collar of white or yellow spots round the neck.

Inhabits the northern parts of *Asia* and *America*, *Siberia*, *Kamt-schatka*, the *Kurile islands*; sleeps by day, preys by night on smaller weasels, squirrels and hares, in winter on birds, particularly

particularly partridges, in autumn on berries; infests cats; gravid 3 months, brings 3—5 young; fur precious.

Resembles the martin, *head* longer; *ears* longer, yellow at the margin; *hair* longer, more shining; *feet* more hairy; *tail* shorter than the extended hind-legs; *chin* cinereous; *mout* whiskered,

Americana. Body light-tawny; head and ears whitish. *American Sable*
nus. Inhabits *North America*; 20 inches long; tail 5.
Ears more pointed; *feet* large, brown, hairy above and beneath 5-toed; *claws* white.

Nigra. Back, belly, legs, and bushy tail black; sides brown. *Fisher Weasel*
 Inhabits *North America*; sometimes varies in colour.
Nose black, with stiff whiskers; *ears* broad, rounded, dusky on the outside, edged with white; *feet* broad, hairy, 5-toed sometimes only 4 behind; *claws* strong, sharp, crooked *fore-teeth* 6, small; *tusks* 6, large; *grinders* upper, 4 on each side, 3 sharp, 1 flat, lower 6, farthest flat, 3 next pointed 2 others with 2 points,

* *Putorius*. Body blackish-yellow; mouth and ears white. *Polecat*
 Inhabits most parts of *Europe* and *Asiatic Russia*; dwells in stony places, frequents stables, granaries, houses, hollow trees and shallow burrows; sleeps by day, wanders by night in search of rabbits, mice, moles, poultry, and small birds, in the winter frogs and fish; steals eggs, robs bee-hives; emits from the anus when agitated a most fetid vapour.
 Differs from the martin in having the *head* thicker; *tail* shorter in the deserts of *Russia* sometimes found white; *male* usually yellowish, with a whitish mouth; *female* paler.

* *Furo*. Eyes red, fiery. *Ferret*
 Inhabits *Africa*, tamed in *Europe* to catch rabbits; procreate twice a year, gravid 6 weeks, brings 6—8, rarely 9, young very fetid.
 Less than the last; *head* narrower; *snout* sharper; *body* longer slenderer; *colour* pale yellow.

Sarmatica. Body upper part yellow and brown. *Sarmatian Weasel*
 Inhabits *Poland*, and the deserts of *Russia*; exceedingly voracious, devouring smaller animals; lives in holes; very fetid *body* 14 inches, *tail* 6.
 Resembles the polecat; *body* and *tail* longer; *hair*, except on the feet and tail, shorter.

Sibirica

Sibirica. Body tawny; feet very hairy. *Siberian Weasel.*
 Inhabits the woods of *Siberia*; voracious; devours flesh, and steals butter from the huts of the rustics.
 Tail hairy, darker than the body; fur long, loose; face black; nostrils whitish; about the eyes spotted; throat sometimes spotted with white.

• *Erminea.* Tail black at the tip.

1. Body with a reddish tinge. *Stoat.*

2. Body white; tail blackish at the tip. *Ermine.*

Inhabits *Europe*, the cold parts of *America*, *Asia*, *China*; lives in heaps of stones, banks of rivers, hollow trees, and forests, especially of beech: preys on squirrels, mice and small animals.

Body hardly 10 inches long: hair short, not so shining as the martin: in northern climates becomes white, except the outer half of the tail, which remains black: fur valuable.

• *Vulgaris.* Body tawny-brown, beneath white; tail colour of the body.

Common Weasel.

2. Body white; tip of the tail with a few black hairs.

Inhabits the temperate and cold regions of *Europe*, *Asia* and *America*; in *Russia* becomes white in winter: half the size of the ermine: eats fish, flesh, mice, eggs and fungi, but no other vegetables: preys by night, gets into the holes of mice and devours them, leaving the teeth only: fetid, dirty, and drinks often: cunning, continually looks about, is not easily destroyed by a cat: when terrified becomes epileptic: playful when tamed: brings 6—8 young.

Melina. Back and belly pale cinereous-yellow; face, crown, legs, and tail black. *Yellow Weasel.*

Head flat: ears rounded: nose broad, blunt: cheeks and chin white: throat rich yellow: length 18 inches, tail long as the body.

Quiqui. Body brown; snout wedge-form.

Inhabits *Chili*: lives in burrows: is ferocious, and eats the mouse tribe.

19. URSUS.

19. **URSUS.** *Fore-teeth* upper 6, hollowed within, alternate; lower 6, lateral 2 longer, lobed; secondary at the base interior; *tusks* solitary: *grinders* 5—6, the first approaching the tusks: *tongue* smooth: *eyes* with a nictitant membrane: *snout* prominent: *penis* with a curved bone.

These have 5 toes on each foot, all contiguous: sole of the foot long, resting on the heel; they climb, and some use the fore-feet like hands.

Arctos. Blackish-brown; tail short,

Black Bear.

1. Quite black, and less.
2. Brown, or ferruginous.
3. Black, mixed with white hairs.
4. Variegated.
5. White.

Inhabits 1) marshy woods of the north of *Europe, Asia*, 2) the same places, and the *Alps, Poland, Egypt, Barbary, India, China, Persia*; 3, 4) *Iceland*: feed 1) on roots, berries, and other vegetables, 2) besides these, on insects, honey, and carcases; inflate the carcases of their prey, and bury what is left; wash their food, lick their paws when in their den; gravid 112 days, bring forth one; become torpid from the middle of November till the frost breaks; walk slowly unless irritated, and then very quickly; fight with the fore-feet, standing erect upon the hind; never attack man unless provoked; before battle always make the young get into trees; descend trees tail foremost, of which they are careful; are not lowly; fly at music; stand easily on the hind-feet; swim; the nictitant membrane renders their aspect horrid.

Thumb narrower than the other toes; *teats* 4; *head* less than the lion, brain larger; *tendons* made use of as thread by the *Laplanders*; *flesh* eatable; *gall* very bitter, and used in epilepsies; *fat* used to make the hair grow.

Maritimus White; tail short; head and neck lengthened. *Polar Bear.*

Inhabits within the *Arctic Pole*, frequently found on ice islands; impatient of heat; feeds on fish, seals and cetaceous animals, seldom on vegetables; gravid 6—7 months, brings forth 2; fights terribly with the morse.

Resembles

Resembles in its habits the last; *head* larger, more convex; *snout* thicker; *ears* short, round; *nose* tipped with black; *teeth* large; *fur* long, soft, shaggy, yellowish-white.

Amur. Black; throat and cheeks rusty-brown. *American Bear.*

var. Inhabits the whole of *America*, except *Chili* and *Patagonia*; feeds chiefly on vegetables and fish, is particularly greedy of potatoes and maize; very cowardly.

Head more lengthened; *ears* longer; *hair* stronger, soft, straight, more shining and thinner than the *U. arctos*; *body* smaller; *snout* larger, sharper.

Tetradac. Feet 4-toed. *Sand Bear.*

tylas. Less than the badger; almost destitute of hair; impatient of cold; burrows in the ground.

Body yellowish-white; *eyes* small; *legs* short; *claws* white, sharp; *tail* long.

* *Melis.* Body above cinereous, beneath black; a longitudinal black stripe including the eyes and ears; tail colour of the body. *Badger.*

2. White above, yellowish-white beneath.

3. White with reddish-yellow and brown spots.

Inhabits *Europe*, *Asia*, as far as the northern boundaries of *China*, 2) *New-York*, 3) very rare; lives in woods, clefts of rocks and heaps of stones, feeds on insects, eggs, fruit and vegetables, upon which it gets very fat, and burrows during winter; hunts rabbits by night; very cleanly, having a distinct repository for its excrements without the den; lies hid by day; discharges a fetid matter from the orifice under the anus; easily tamed; gravid 7 weeks, bring 3—5 young.

Eye covered by a white nictitant membrane; *teats* 6, 2 pectoral, 4 abdominal; *feet* short, 5-toed: *length* more than 2 feet, 2) 21 inches; *flesh* when dried makes excellent bacon.

Labrado. Tail hairy at the tip, brown-yellow; throat, breast and belly white; fore-feet 4-toed, *American Badger.*

Inhabits *Labradore*, and *Hudson's Bay*; less than the last, with softer, longer hair.

Ears short, white, black at the margin; *head* white, two black lines behind the nose reaching round the eyes; *hair* of the back long, chestnut at the root, then bright brown, then black, at the tip white; *legs* short, brown; *grinders* 4 each side, each jaw.

Indicus.

Indicus. Face black; crown, upper parts of the body white, lower black. *Indian Badger.*

Inhabits *India*; lively, playful; feeds on flesh; sleeps rolled up; climbs readily.

Head small; snout sharp; instead of ears an oval prominent rim; feet 5-toed, the inner smaller, claws long, straight; hair short, smooth: length 2 feet, tail 4 inches.

Lutor. Tail annulate; a black transverse stripe by the eyes.

Raccoon.

Inhabits northern parts of *America*, in hollow trees; eats eggs, poultry and shell-fish; washes its food, and carries it to its mouth with the fore-paws; sense of smell and touch exquisite; memory tenacious; sleeps from 12 at night till 12 in the day; climbs easily; fearful of hog's bristles; brings 2—3 young.

Body cinereous, hair black at the tips, brown in the middle, appearing as if waved; head brown, forehead white; tail annulate with black hair; penis with a curved bone.

2. Cream-colour, or yellowish-white.

Luscus. Tail long; body rusty-brown; snout blackish; forehead and sides yellowish-brown. *Wolverene*

Inhabits *Hudson's Bay*; size of a wolf, head like the glutton very fierce, seizes beavers by surprise; lurks on trees, and fastens on deer as they pass; burrows; very fetid.

Hair long, rough; tail chestnut, darker at the tip; fore-feet 4-toed, hind 5-toed; claws white at the end; back arched.

Gulo. Tail the colour of the body, tawny-brown; middle of the back black. *Glutton*

Inhabits northern parts of *Europe*, *Asia*, and *America*, sometime *Poland*, rarely *Germany*, in mountainous and vast forests cunning, voracious, preys on hares, mice, rein deer, bird carcases, fish, cheese and other food; climbs easily; never attacks man unless much pressed by hunger; defends itself against dogs by an insupportable fetor; tameable when young; fur valuable.

Larger, slenderer than the badger; limbs shorter than the *U. arctos*, thick, robust, hairy, 5-toed; tail shorter than the hind feet, hairy; teats 6; fore-teeth upper intermediate ones equal rather lobed both sides, outer ones longer, conic, robust, lobed on the backside; lower 6, as if cut through the middle, 2 intermediate within, middle ones less, outer ones thicker; tusks smooth, conic, stout, upper larger; grinders upper 5, lower 6 each side, lobate, first and last small.

2. White, sometimes tinged with yellow,

20. D.

20. DIDELPHIS, *Fore-teeth* minute, rounded; upper 10, intermediate 2 longer; lower 8, intermediate 2 broader, very short: *tusks* long: *grinders* crenate: *tongue* fringed with papillæ; a *pouch* (in many) abdominal, covering the teats.

This tribe is chiefly found in *America*, living in holes in woody places, burrowing in the earth, and climbing trees by means of their prehensile tail; they move slowly, feed on birds, especially poultry, insects, worms, and vegetables; *feet* usually 5-toed divided, the great toe remote; *penis* mostly concealed, *glans* divided; *females* sometimes with 1—3 abdominal pouches which can be opened or shut at pleasure, in which the young are hid in time of danger, and which is present sometimes in the males.

Marsupialis.

Teats 8, within the pouch.

Amboyna Opossum.

Inhabits *Amboyna*: size of a large cat.

Nostrils perpendicular, lunar; *whiskers* long, 5-rowed; *bristles* 8 at each corner of the mouth and 5 under the throat; *ears* oval, lax, black, tip with white; *grinders* lobate, anterior ones simple, first small; *legs* black, smooth, with short hair; *tail* length of the body.

Philander

Tail bushy at the base; ears pendulous; teats 4.

Brasil Opossum.

Inhabits *South America*; length 9 inches, tail 14.

Whiskers 6 rows; *margin* of the orbits dusky; *feet* whitish; naked part of the *tail* whitish with brown spots.

Opossum.

Tail hairy near the base; region of the eyebrows paler.

Virginian Opossum.

2. Back dark-brown; belly yellowish.

Inhabits the warm and temperate parts of *America*, 2) *Ceylon*, *Molucca*; springs from tree to tree by means of the prehensile tail; slow of foot, tenacious of life; grunts, is easily tamed; brings 4—5 young, which are carefully hid in the pouch; about a foot long.

Head longer, more acute than the last, shorter than *D. marsupialis*; *ears* longish-oval, 2) short, rounded; *teats* 5—7; *tail* shorter than the body, naked part whitish.

Vol. I.—K

Cayopala

Cayoptella Tail longer than the body; pouch 0; margin of the orbits black. *Mexican Opossum.*

Inhabits the mountains of *New Spain*; snout thicker, ears shorter, narrower than the last; lives in trees, in which it brings forth its young, who cling close to the dam when alarmed.

Grinders upper 5, each side; *tail* 11 inches long, whitish, spotted with chestnut, hairy at the base; *body* 6 inches long; *face* dirty-white, a dark line down the middle; *whiskers* large.

Murina. Tail hairy at the base; a fold including the teats. *Marmosa.*

Inhabits *South America*; eats fruit, grain, roots, and fish; slow and stupid; 6 inches long, tail the same.

Whiskers 6 rows, shorter than the head, lowest row white; *back* convex, and with the crown rusty-brown; *claws* acute; *teats* 14 cylindrical.

2. Brown above, white beneath. Inhabits *Guinea*.

Dorsifera. Tail hairy at the base, longer than the body; toes of the hind-feet unarmed. *Merian Opossum.*

Inhabits *Surinam*; burrows in the ground; brings 5—6 young, which when in danger stick to the back of the mother by twisting their tails round hers; size of a rat.

Orbits brown at the margin; *tail* long, whitish, of the male spotted, brownish, naked; *claws* of the fore-feet obtuse, hind-feet sharp; *ears* naked, sharp.

Cancerivora Tail scaly, almost naked, nearly as long as the body; thumb of the hind-feet flat. *Cayenne Opossum.*

Inhabits marshy places of *Cayenne*; feeds on crabs, which it hooks from their holes with its prehensile tail; grunts like a pig; grows fat, easily tamed, brings forth 4—5 in hollow trees; flesh resembles a hare.

Hair curled like wool, with a few bristles, which from the middle of the back to the tail form a kind of mane; *head*, neck, shoulders, and thighs reddish-yellow, *sides* and belly yellow, *feet* dark-brown; margin of the *orbits* black; *ears* short, oval, naked.

Caudicifera. Tail taper, prehensile, tip hairy. *New Holland Opossum.*

Inhabits *New Holland*; lives in long grassy marshes.

Body above and sides with long, soft, glossy hair, dark-grey at the roots, tips rusty; *tail* white at the extremity, naked underneath; *snout* sharp; *whiskers* long; *fore-feet* 5-toed, clawed, *hind-feet* 3 toes with claws and a distinct thumb; *fore-teeth* 2:2; *female* with a pouch; *length* 13 inches; *tail* as long. *Brachy-*

Brachyura Tail short, hairy; ears naked; pouch 0; body rufous.
Short-tailed Opossum.

Inhabits the woods of *South America*; from 3 to 5½ inches long, tail half the length; brings 9—10 young.

Snout longer than *D. opossum*; fur soft, glossy, beautifully red by the sides of the head and body.

Orientalis. Tail hairy from the base to the middle, prehensile, longer than the body; two middle toes of the hind-feet united.

Phalanger.

Inhabits the *Molucca islands*, probably *New Holland*; timid; resembling the squirrel in voice and manner of eating; teats 2—4, as many young.

Head convex, thick; ears and feet short; claws long, curved; a black line down the hind part of the head and middle of the back; fore-teeth upper 8, lower 2.

Brasili. Tail short, naked; hind-feet longest, 3-toed.

Javan Opossum.

Inhabits *Java*; kept in inclosures with rabbits; burrows, and is the size of a hare.

Head narrow; ears upright, pointed; across the face and through the orbits a brown stripe; fore-teeth upper 6, lower 2; tusks 0; fore-legs short, 5-toed; belly with a pouch.

Gigantea. Tail long, thick; hind-feet three times as long as the fore, 3-toed.

Kangaroo.

Inhabits *New Holland*; when full grown as large as a sheep; leaps, burrows, eats like a squirrel; feeds on fruit and vegetables; flesh good.

Body yellowish-grey; head more obtuse than any other species; ears long; trunk fore part slender, hind part robust; upper lip cleft; nose black at the point; ears thin, oval, erect, with short hair; fore-teeth upper 6 broad, lower 2 sharp, moveable; tusks 0; grinders 4 each side, far back; claws of the fore-feet long, black; middle claw of the hind-feet prominent, exceedingly large.

Didactyla Tail long, tapering, hairy; hind-legs long, 3-toed; ears rounded.

Kangaroo Rat.

Inhabits *New South Wales*: size of a rat.

Fore-teeth upper 8, two middle ones sharper, lower 2 long, pointed; grinders 3 each side, foremost channelled; fur smooth, dark-brown.

Obefula. Tail longish; fore-feet 5-toed, exterior claws small; hind-feet 4-toed, 2 interior united, *Porculine Opossum.*
 Inhabits *New Holland*; size of a half grown rat,
 Body rusty above, whitish beneath, corpulent; hind-legs much longer; interior claws double; ears rounded; hair coarse.

Macrotarsus. Tail slender, naked, hairy at the tip; heels of the hind-feet long, naked; thumb-nail flat. *See Lemur Podje.*

Vulpecula. Tail long, thick, hairy, base grisly like the body, lower part more than half way black. *Vulpine Opossum.*
 Inhabits *New South Wales*; 26 inches long, tail 15.
 Legs short, equal; feet 5-toed, claws sharp, crooked, except the thumb of the hind-feet, which is high up the foot and without claw; whiskers 10—12, standing backwards longer than the head; fore-teeth upper 4, lower 2 projecting; tusks upper 2 long, lower 0.

Maculata. Body black spotted with white; tail bushy; female with a pouch. *Spotted Opossum.*
 Inhabits *New South Wales*; 15 inches long, tail 9.
 Body black, under parts brownish; ears large, erect, open, pointed; whiskers long at the nose; feet 5-toed, claws long, sharp, black, great toe 0; teats 6, circularly disposed within the pouch.

Volans. A broad hairy membrane extending from the middle of the fore-legs to the first joint of the hind-legs, not including the tail. *Flying Opossum.*
 Inhabits *New South Wales*; 20 inches long, tail 22.
 Body black, under parts paler; along the middle of the back a kind of mane; fore-teeth upper 4, lower 2; tusks upper 2, lower 0; grinders 5 each jaw, each side; great toe of the hind-feet unarmed.

Sciurea. A lateral flying membrane; body grey above, snowy beneath; tail prehensile, very hairy, black towards the tip. *Squirrel Opossum.*
 Inhabits *New Holland*; torpid by day, active by night.
 Size of a squirrel; eyes black, full; ears round, thin; membrane edged with blackish; pouch large; thumb of the hind-feet rounded, unarmed; a black stripe down the head and back; 2 interior toes of the hind-feet joined.

Macroura.

Macroura. A lateral flying membrane; body dark-grey above, whitish beneath; tail long, slender, black. *Long-tailed Opossum.*
Inhabits *New Holland*; less than the last, but resembles it in manners and appearance.

Pipera. A lateral flying membrane; tail flat, pinnate, linear. *Pigmy Opossum.*
Inhabits *New Holland*; size of a mouse.
Body brown above, whitish beneath; whiskers long; tongue large, long, flattened; pouch semilunar at the opening.

21. TALPA. Fore-teeth unequal upper 6, lower 8: tusks solitary, upper larger: grinders upper 7, lower 6.

These live under the earth, dig cylindrical tubes, feed chiefly on worms: head thick, lengthened into a snout; eyes very small, covered; ears 0; body thick; legs short, fore-feet broad, large, shorter than the hind-feet, with longer claws.

**Europæa.* Tail short; feet 5-toed. *Mole.*
2. Variegated with white spots.
3. White.
4. Yellow.
5. Cinereous; fore-feet narrower.

Inhabits all *Europe*, and northern parts of *Asia* and *Africa*; frequents moist meadows, hollowing and turning up the earth; feeds on worms and caterpillars, not on plants; is destroyed by castor oil, but chiefly by floods; sometimes escapes into trees from inundations; skin soft, silky; brings 4—5 young.

Longicauda. Tail half the length of the body; feet 5-toed, hind-feet scaly. *Long-tailed Mole.*
Inhabits *North America*; 4—6 inches long.
Body bright tawny; fore-feet palmate, almost naked, claws long; nose radiated with tendrils: fur longer.

Libra. Tail short; fore-feet 3-toed, hind-feet 4-toed. *Red Mole.*
Inhabits *America*; larger than *T. europæa*, tail thicker at the root.

Asiatica. Tail 0; fore-feet 3-toed. *Siberian Mole.*
Inhabits the *Cape of Good Hope*; 4 inches long.
Snout shorter than *T. europæa*: nose naked: body brown tending to golden and greenish: rump round.

22. SOREX.

22. SOREX. *Fore-teeth* upper 2, long, bifid; lower 2—4, intermediate ones shorter: *tusks* many on each side; *grinders* cuspidate.

These in their head resemble the mole, in other parts the mouse: burrow in the ground: generally feed on worms and insects: live under ground, some near the water: *body* thick: *feet* 5-toed: *head* lengthened, terminated by a conic snout: *eyes* small.

Cristatus. Nostrils carunculate; tail short. *Crested Shrew.*

Inhabits *North America*; 4 inches long, tail $1\frac{1}{4}$: feeds on roots: resembles in face and snout the mole.

Hair short, smooth, compact, black: *fore-feet* snowy, *hind-feet* scaly: *fore-teeth* lower 4: *tusks* 4 each side: *nose* surrounded with 10—15 naked, stellate, caruncles.

Minutus. Snout very long; tail 0. *Minute Shrew.*

Inhabits *Siberia*, in moist woods under the roots of trees, makes its nest of lichen, collects seeds, runs and burrows quickly, bites, has the voice of a bat, weighs about a drachm.

Hair soft, shining, grey, paler underneath: *head* nearly as large as the body: *snout* tapering, furrowed beneath: *whiskers* reaching to the eyes: *ears* broad, short, naked: *eyes* small, retracted: *toes* 5: 5.

Aquaticus. Hind-feet palmate; fore-feet white; tail short, white.

Aquatic Shrew.

Inhabits *North America*; size of a mole.

Hair shining, dark grey, brown at the tips; *fore-teeth* lower 4: *snout* slender, upper jaw longer.

Moschatus. Feet palmate; tail flattened, thickest in the middle.

Musky Shrew.

Inhabits about the lakes of the *Volga* and *Tanais*; burrows under the banks with an entrance into the water: feeds on flags and fish: 7 inches long, tail 8.

Head like a mole: *snout* cartilaginous, moveable: *whiskers* 12 rows, white: *eyes* small: *ears* 0: *trunk* flat, and besides the skin a fleshy moveable pannicle: *feet* naked, scaly above, black: *fore-teeth* lower 4: *tusks* 6 each jaw: *grinders* upper 4, lower 3: *tail* blackish, with 7—8 small orifices at the root, exuding a yellowish fluid which smells strongly of musk.

* *Bicolor.*

* *Bicolor*. Tail middle length, nakedish; body blackish, beneath cinereous; toes fringed. *Water Shrew.*

Inhabits *Europe* and *Siberia*, near swamps and rivers; swims easily, often under water; female teats 10, brings 9 young; voice like the chirp of a grasshopper: 4 inches long, tail 2.

Snout broader at the tip, feet longer than *S. araneus*; fore-teeth lower 2; tusks 3:2; grinders 4:3; whiskers long, ash-coloured; ears small, a tuft of white hairs within; legs and feet white.

Murinus. Tail middle length; body brown; feet and tail cinereous. *Murine Shrew.*

Inhabits *Java*; size of a mouse.

Snout long, channelled beneath; whiskers long; ears rounded, nakedish; fore-teeth 2, acute, parallel; feet 5-toed, clawed; tail a little shorter than the body, nakedish.

* *Araneus*. Tail middle length; body whitish beneath. *Fetid Shrew.*

Inhabits all *Europe* and north of *Asia*; lives in old walls, stables, yards, granaries, outhouses, swamps and pools, feeds on corn and insects; smells of musk, is killed but not eaten by cats, voice shrill, runs slower than a mouse, brings 5—6 young in spring and summer; never 3 inches long; teeth like the *S. bicolor*.

2. Head, upper parts dusky; sides brownish-rusty.

Inhabits *Hudson's Bay*, and *Labradore*, with 3.

3. Upper parts dusky-grey; under yellowish-white.

Surinamensis. Tail half as long as the body; body above chesnut, beneath white and yellowish-grey. *Surinam Shrew.*

Inhabits *Surinam*; resembles *S. bicolor*, ears *S. araneus*; tail covered with short, close hair, above cinereous, beneath paler; mouth white.

Pusillus. Ears rounded; tail short, a little fringed at the sides. *Timid Shrew.*

Inhabits the northern parts of *Persia*, in holes which it burrows, $3\frac{1}{2}$ inches long; teeth like *S. araneus*, other parts like *S. surinamensis*; body dark grey above, belly paler.

Brasilien-sis. Brown; back black with 3 stripes. *Brasilian Shrew.*
Inhabits *Brasil*; not afraid of cats; 5 inches long, tail 2.
Scrotum pendulous; snout pointed; teeth sharp.

Exilis.

- Exilis.* Tail very thick in the middle, tapering to each end. *Pigmy Shrew.*
 Inhabits *Siberia*; the smallest of quadrupeds, hardly weighing $\frac{1}{2}$ a drachm, colour darker than *S. araneus*.
- Caruleus.* Tail middle length; upper parts pale blue; belly lighter; legs and feet white. *Blue Shrew.*
 Inhabits *Java*, and other *East Indian* islands; feeds on rice; smells so strongly of musk that cats will not attack it: 8 inches long, tail $3\frac{1}{2}$.
Nose slender; upper jaw much longer; *fore-teeth* upper short, lower long, incurvate; *whiskers* long, white; *ears* broad, round, naked, transparent.
- Mexicanus* Tail short; fore-feet 3-toed, hind-feet 4. *Mexican Shrew.*
 Inhabits *New Spain*; burrows in vast numbers; feeds on roots and seeds; flesh good; 9 inches long.
Nose sharp; *ears* small, rounded; *fore-teeth* 2, long, in each jaw; body thick, fat, yellowish; legs very short; claws long, crooked.
- Albipes.* Tail slender, hairy; upper parts dusky-ash; feet, belly and teeth white. *White-footed Shrew.*
- Quadri-caudatus.* Tail squareish; head and upper parts dusky-ash, belly paler; fore-teeth brown. *Square-tailed Shrew.*
- Luricaudatus.* Tail taper, keeled underneath; head and upper parts dusky-ash, belly whitish; fore-teeth brown; a white spot behind each eye. *Carinate Shrew.*
- Unicolor.* Tail compressed at the base; body uniform dusky-ash.
 These four last are probably only varieties of *S. araneus*; they were all found near *Strasburg*.

23. ERINACEUS. *Fore-teeth* upper 2, distant; lower 2, approximate: *tusks* upper 5 each side, lower 3: *grinders* 4 each side, each jaw: *back* and *sides* covered with spines.

• *Europæus*

Europæus. Ears rounded; nostrils with a loose flap. *Hedge-hog.*

Inhabits all *Europe*, except the very north, southern parts of *Siberia*, and *Madagascar*; lives in thickets, and hedges, builds its nest of moss, grass, leaves, winters in bushes rolled up, wanders by night, feeds on toads, worms, beetles, crabs, shell-fish, fruit, small birds, and carcases; digs in mossy places, swims easily; when frightened or angry rolls itself up and presents its spines on every side; screams if the feet are pressed, smells musky; is tamed by the Calmucs like the cat; female 5 teats, 3 pectoral, 2 abdominal; brings 3—5 young, does not, as is vulgarly supposed, suck cattle; flesh not eatable.

Length about 10 inches; *snout* acute; upper lip cleft; ears broad, short, hairy; eyes small, black; *prepuce* pendulous; hair of the head whitish-tawny mixed with white, of the neck, feet, between the spines and on the tail darker, of the throat greyish-white, of the breast and belly the same mixed with tawny; spines each end yellowish-grey, middle blackish; legs short, naked, 5-toed; claws weak.

Guianus. Ears o. *Guiana Hedge-hog.*

Inhabits *South America*; about 8 inches long.

Head thick, short; spines cinereous tinged with yellow; hair soft, whitish-chestnut over the eyes; tail short; claws long, crooked.

Malaccensis. Ears pendulous. *Malacca Hedge-hog.*

Inhabits *Asia*; from it is procured the precious stone called *Piedra del porco*.

Sibericus. Ears long, oval; nostrils with a flap. *Siberian Hedge-hog.*

Inhabits lower parts of the *Volga* and *Ural*, and as far as lake *Baikal*; resembles *E. europæus*, but less, eyes larger, whiskers 4 rows, feet longer, slenderer, tail shorter, conic, annulate, nearly bald; female brings 4—7 young, sometimes twice a year; spines brown, a white ring at each end.

Indicus. Ears shorter; spines on the head, neck, tail and withers only. *Asiatic Hedge-hog.*

Inhabits *India*, and *Madagascar*; hardly 6 inches long; wallows in the mire, grunts like a hog, burrows, torpid 6 months, during which the hair falls off.

Snout and whiskers long; feet short; spines whitish, pale chesnut in the middle; hair white.

Ecaudata. Tail 0; snout very long, acute. *Madagascar Hedge-hog.*

Inhabits *India*, and *Madagascar*: 8 inches long: in its habits exactly resembles the last.

Mouth and eyes small: ears rounded, longer than the last: spines black in the middle, covering the whole back and sides: hair yellowish: feet tawny.

ORDER

ORDER IV. GLIRES.

Fore-teeth 2 in each jaw, approximate, remote from the grinders: tusks 0.

24. **HYSTRIX.** *Fore-teeth 2, cut off obliquely: grinders 8: toes 4—5: body covered with spines and hair.*

Porcupine.

Eriflata. *Fore-feet 4-toed, hind-feet 5-toed; head crested; tail short.*
Crested P.

2. Spines shorter; crest smaller.

3. Spines long; crest ample.

Inhabits South *Asia*, *Africa*, *Spain*, and *Italy*; digs large burrows, divided into many apartments, with a single entrance; seeks by night for fruit, roots, herbs, especially box; when frightened rolls itself up, makes a grunting noise; brings 2—4 young; easily tamed; flesh very good.

Length about 2 feet; *head* long, compressed; *snout* short, obtuse; *upper lip* cleft to the nostrils; *eyes* small, black; *ears* oval, broad, short; *tail* conic, spinous; *feet* short, thick; *hair* between the spines cinereous; *spines* long, robust, smooth, annulate with black and whitish, the longest of which and the bristles of the neck it is able to erect and recline; the gall-bladder contains a sort of bezoar.

Prehensilis *Feet 4-toed; tail long, prehensile, naked beneath at the end.*
Brazilian P.

2. Tail longer, spines shorter.

3. Smaller; head white.

Inhabits the woods of *Brasil*, *Guinea*, and *New Spain*; climbs trees, feeds on fruit, and small birds; grunts like a swine; rolls itself up, sleeps by day, easily tamed, flesh good.

Whiskers long, white; *spines* on the upper lip under the nose; *feet* ashy, *claws* strong, black; *length* 15 inches, *tail* 7.

Mexicana. *Tail long, prehensile; hind-feet 4-toed; spines mixed, and almost hid in downy hair and long bristles. Mexican P.*
Inhabits the mountains of *Mexico*; lives on fruit, easily tamed; 18 inches long, *tail* 9.

Body dusky; *spines* annulate white and yellow, short, slender; *tail* from the middle downwards without spines.

I. 2

Dorsata.

Dorsata. Tail middle length, not prehensile; hind-feet 5-toed; spines on the upper part of the head, back and tail only.

Canadian P.

2. Body white.

Inhabits *North America*; digs holes under trees; climbs, feeds on fruit, and bark particularly of the juniper; laps like a dog; in the winter eats snow in the place of drink; nearly the size of a hare.

Body rusty-brown; tail underneath white at the tip; spines almost hid among the hair.

Macroura. Feet 5-toed; tail very long; prickles clubbed or jointed.

Long-tailed P.

Inhabits the woods of the islands of the *Indian Ocean*.

Ears short, naked; tail length of the body, crowned at the tip with a tuft of long, knotted, silvery hairs; body short, thick; ears short, naked; eyes large, bright.

25. CAVIA. Fore-teeth 2, wedged: grinders 8: toes on the fore-feet 3—5, on the hind-feet 4—5: tail short or 0: clavicles 0.

These seem to hold a middle place between the murine and rabbit tribes; move slow with a kind of leaping: do not climb: feed on vegetables: dwell in hollow trees or dig burrows.

Raca. Tailed; feet 5-toed; sides striped with yellowish spots.

Spotted Cavy.

Inhabits *Guinea* and *Brazil*; burrows on the banks of rivers, keeps its nest clean having three separate outlets: grows fat, and when young is easily tamed: flesh very good, female brings 1 young; about 2 feet long.

Body above brown with 5 rows of white or yellowish spots, close set along the sides: neck, feet, and belly dirty-white: ears oval, covered, bluntish: neck short, tail hardly any: hind-legs longer than the fore; teats 2, placed between the hind-legs.

2. Entirely white. Found near the river *St. Francis*.

Acruschy. Tailed; body olive.

Olive Cavy

Inhabits the woods of *Guinea*: about the size of a half grown rabbit: lives on fruit, avoids water: easily tamed: flesh esculent: tail longer than the last: brings 1—2 young.

Aguti

Aguti. Tailed; body tawny-brown; belly yellowish.

Long-nosed Cavy.

2. Fore-feet 4-toed, hind-feet 3-toed; belly yellowish.
3. Body above tawny; beneath white.
4. Body covered with coarse, tawny fur.

Inhabits *South America*, and *West India islands*; lives in hollow trees or burrows; seeks food by day, eats vegetables which it collects and preserves; sits on its hind-legs, and carries its food to its mouth with its fore-paws; leaps rather than runs; grows quick, is easily tamed; flesh resembles a rabbit, brings 3—5 young; about $1\frac{1}{2}$ foot long.

Tail conic, naked, very short; feet subpalmate.

Aperca. Tail 0; body above tawny-ash, beneath white. *Rock Cavy.*

Inhabits *Brasil*, in the holes of rocks; a foot long.

Ears short; fore-feet 4-toed, black, naked, hind 3-toed; claws short, small.

2. Black spotted with tawny.

On the continent of *America* are found many varieties of this species, differing only in colour.

Cobaya. Tail 0; variegated with white and tawny or black.

Guinea Pig. Restless Cavy.

Inhabits *Brasil*, domesticated in *Europe*; is perpetually restless, grunting, running to and fro, eating or sleeping; feeds on vegetables, particularly parsley, drinks water, loves warmth; teats 2, brings many perfect young many times a year; about a foot long.

Colour varying; hair harsh, longer on the neck; body thick; neck short; ears short, broad, naked without; eyes large, brown, a little prominent.

Magellana. Tail very short; nose with tufts of curly hair; whiskers long, numerous. *Patagonian Cavy.*

Inhabits *Patagonia*, resembles the rest in manners; flesh white, delicate; weight often 26 pounds.

Ears long, broad at the bottom; upper lip cleft; nose black at the tip; face, back and legs on the fore-part cinereous mixed with tawny; rump black; belly dirty-white; outside each thigh a white patch; legs long, 4-toed before, 3 behind; claws long, straight, black.

Capybara. Tail 0; fore-feet 3-toed, palmate. *River Cavy.*

Inhabits the eastern parts of *South America*, in fenny woods near large rivers; swims and dives well; feeds on fish, which it catches at night, and vegetables; gregarious, grows fat, flesh tender; brings 1 young: $2\frac{1}{2}$ feet long.

Head

Head oblong; *snout* narrow; *nostrils* black, rounded; *upper lip* cleft; *whiskers* black; *eyes* large, black; *ears* short, erect, naked, black; *neck* short, thick; *legs* short; *fore-feet* 4 toed; *hair* bristly, longer on the back, usually black at the ends, middle yellow.

26. CASTOR. *Fore-teeth* upper truncate, hollowed in a transverse angle; lower transverse at the top; *grinders* 4 each jaw: *tail* long, depressed, scaly: *clavicles* perfect.

Fiber.

Tail ovate, flat, naked.

Beaver.

2. White; tail horizontally flat.

Inhabits the northern parts of *Europe*, *Asia*, and *America*, on the woody banks of rivers and unfrequented lakes; feeds on the bark and leaves of such trees as have not a resinous juice, but not on fish or flesh; walks slow, swims dexterously, sleeps profoundly, is very cleanly, eats sitting on its haunches, conveys the food to its mouth with the fore-paws; cuts down trees with the teeth, erects convenient houses, lives in families, from which are dismissed such as are indolent, who become solitary and are called hermits; female has 4 teats, gravid 4 months, brings 2, rarely 3 or 4, young; in the structure of its house far exceeds the ingenuity of all other quadrupeds.

Length 2—3 feet; *tail* half as long, about a fourth part from the body hairy, the rest scaly; *feet* 5-toed, hind-feet palmate; *eyes* small; *ears* short, covered with fur; *neck* thick, short; *back* convex, strong; *hair* soft, short, dusky, varying by climate to darker or lighter and sometimes spotted; *salivary glands* large; *stomach* at the right side of the upper orifice furnished with glands discharging into it through 18 orifices a peculiar fluid; near the genitals and anus two large glands with cellular follicles secreting a sebaceous matter called *Castor*, of which each animal has about 2 ounces.

*Huidobri-
us.*

Tail compressed, lanceolate, hairy; fore-feet lobed, hind-feet palmate.

Chilese Beaver.

Inhabits *Chili* in the deepest parts of lakes and rivers, fierce, feeds on fish, chiefly crabs, remains long under water, has not the wonderful architecture nor castor of the last, brings 2—3 young; about 3 feet long.

Head nearly square; *snout* obtuse; *eyes* small; *ears* short, round; *hair* double like the last, the undermost finer than a rabbit's, valued by furriers; on the *back* cinereous, *belly* whitish.

27. MUS.

27. MUS. *Fore-teeth* upper wedged: *grinders* 3, rarely 2, each side each jaw: *clavicles* perfect.

These live in holes or any concealed chinks, climb and run swiftly, some swim; seek their food by night, which is chiefly vegetable, and which they convey to the mouth by the fore-paws; females mostly 8 teats, breed many times a year, bring numerous litters; some migrate; *ears* short, rounded; *fore-feet* generally 4-toed, with a warty excrescence instead of a 5th.

A. *Tail compressed at the end.*

Cypus. Tail middle length, subcompressed, hairy; hind-feet palmate. *Beaver Rat.*

Inhabits the waters of *Chili*, in appearance and colour resembles the otter.

Tail thick; feet 5-toed; ears rounded; female brings 5—6 young.

Zibethicus. Tail long, compressed, lanceolate; feet cleft. *Musk Rat.*

Inhabits the slow streams of *North America*, on the banks of which it builds, but more simply than the beaver; feeds on shell-fish, in summer on fruit and herbs, in winter on roots, particularly of flags and water lilies; female 6 abdominal teats, bring 3—6 young three or four times a year; swims and dives dexterously, walks unsteady: a foot long.

Tail a little shorter than the body, flat, scaly, brown; toes of the hind-feet with rows of long, thick white hair; claws reddish; hair soft, dark-brown; anus with glands secreting a musky, oily fluid.

B. *Tail round, naked.*

Putorius. Tail longish, scaly, truncate; body white. *Musk Cavy.*

2. Body above tawny, beneath white.

Inhabits *India*, 2) *West Indian* islands; burrows, infests houses, smells of musk; size of a rabbit, tail 4 inches long.

Ears large, naked; fore-feet 4-toed, an excrescence instead of the thumb; hind-feet 5-toed.

Ceraco. Tail long, scaly, bluntish; body grey; hind-feet slightly palmate.

Inhabits the waters of eastern *Siberia* and *China*, burrows on the banks, swims well, frequents houses: 6 inches long.

Head long, narrow; eyes nearer the ears than the nose: toes of the

the hind-feet connected by a fold of skin; *back* brown mixed with grey, *belly* whitish-ash; *feet* dirty-white; *tail* $4\frac{1}{2}$ inches.

- *Decumanus*. Tail very long, scaly; body bristly, grey above, whitish beneath. *Norway Rat*.

Inhabits *India*, *Persia*, and has been lately brought to *Europe*; burrows in banks, swims well, migrates in flocks, frequents houses, stables, gutters, gardens, granaries; feeds on vegetables, grain, flesh, poultry, and even its own tribe; is hunted by dog, cats, ferrets, female thrice a year brings 12—18 young. *Body* 9 inches long, *tail* 7, consisting of nearly 200 rings, *toes* distinct; *head* long; *whiskers* longer; *eyes* large, prominent.

- *Rattus*. Tail very long, scaly; body black, beneath hoary.

Black Rat.

Inhabits *Europe*, *Persia*, *India*, and latterly *Africa*, *America*; infests houses and ships, is cautious and fierce, drinks little, devours whatever comes in its way, even its own species; is the prey of owls, weasels, and cats who will not always attack it; female 10 teats, brings 5—6 young.

Length about 8 inches, *tail* the same, consisting of nearly 250 rings, slender; *body* sometimes varies to grey with white spots, and rarely to white with red eyes.

2. Much smaller, hardly weighing 6—7 drachms.

- Americanus*. Tail long, scaly; head long; nose pointed; upper jaw much longer; ears large, naked. *American Rat*.

Inhabits *North America*, among stones and clefts remote from habitations; sometimes larger than the last.

Body deep brown; *belly* paler; *hair* coarse.

- *Musculus* Tail long, nakedish; fore-feet 4-toed, hind-feet 5-toed; thumb without a claw. *Mouse*.

Inhabits houses and granaries in *Europe*, *Asia*, and *America*; follows mankind; eats all kinds of provisions, drinks little; gentle, timid, quick, prolific; devoured by rats, cats, weasels, owls, and hedge-hogs; destroyed by elder and hellebore; about $3\frac{1}{2}$ inches long; varies much in colour; is said to possess a small electric property when alive.

- *Silvaticus* Tail long, scaly; body yellowish-brown, beneath white, breast yellow. *Field Mouse*.

2. Entirely white; eyes red.

Inhabits *Europe*, in woods, fields, gardens, shrubberies, and in winter in houses; feeds on corn and seeds, which it collects in large

large repositories, small birds, and even on its own species; gnaws through the hardest planks; is devoured by hawks, owls, foxes and weasels.

Rather larger than the last, *tail* long as the body, blackish above, white beneath; *feet* clear white.

• *Majorius* Tail long, scaly, body rusty-brown, belly white, a straight line dividing the colours. *Harvest Mouse.*

Inhabits *England*, chiefly in *Hampshire*, something smaller than the last; never enters houses, but is found numerous in the fields during harvest; burrows deep, forms a bed of dry grass, is carried with sheaves of corn into barns; *tail* a little hairy.

Agrarius. Tail long, hairy; body yellowish; dorsal stripe black.

Rustic Mouse.

Inhabits *Russia* and *Silesia*, rarely *Germany*; gregarious, wanders in large troops, doing great harm to the corn.

About three inches long, *tail* half as long; *belly* and *legs* white; *hind-legs* with a dusky circle above the foot; a small claw on the fore-thumb.

2. Dorsal stripe mixed dusky and ferruginous; cheeks, between the ears, and sides orange; under parts, legs and feet pure white.

Inhabits *New-York*.

Ears large, open, naked; *whiskers* long, some of the hairs white, some black; *hind-legs* something longer than the fore; *tail* dusky above, whitish beneath.

Minutus. Tail long, scaly; body above ferruginous, beneath whitish.

Minute Mouse.

Inhabits *Russia*; lives in corn fields and barns.

Half the size of the common mouse; female smaller, less elegant; *face* dusky; *mouth* at the corners whitish.

2. Above elegantly yellow; beneath snowy.

Inhabits *Siberia*; very beautiful.

Scritinus. Tail middle length, a little hairy; snout lengthened; ears round, hairy; above yellowish grey, belly whitish.

Shrew-like Mouse.

Inhabits *Straßburg*; hardly 2½ inches long.

Whiskers 7 rows; *claws* very short; *tail* yellowish mixed with cinereous, more hairy beneath.

Vagus. Tail very long, nakedish; body cinereous; dorsal stripe black; ears plaited. *Wandering Mouse.*

Inhabits

Vol. I.—M

Inhabits the deserts between the rivers *Oby* and *Ural*; lives in clefts of rocks, among stones, in hollows of trees; feeds on seeds, and lesser animals; wanders in flocks, sleeps in winter; less than the last.

Feet slender, whitish; *tail* something longer than the body, above cinereous, beneath whitish, prehensile; *fore-teeth* yellow; *grinders* 2 in each jaw; *claws* long; *teats* 8; *nose* blunt, reddish at the tip.

Betulinas. Tail very long, nakedish; body tawny, dorsal stripe black; ears platted. *Beech Mouse.*

Inhabits the beech woods in the deserts of *Ischim* and *Baraba*, and near the *Oby*; lives solitary in the hollows of old trees, climbs easily; very delicate, soon growing torpid; voice weak. Less than the last; *tail* brown above, whitish beneath; *nose* sharp, tip red; *limbs* slender.

Pumilio. Tail middle length, nakedish; body dark ash; forehead naked, black; 4 dorsal lines black. *Dwarf Mouse.*

Inhabits the forests near the *Cape of Good Hope*.

Body hardly 2 inches long; *tail* not so much; *feet* 5-toed; *thumb* small, clawed.

Striatus. Tail longish, nakedish; body with 12 rows of parallel white spots. *Oriental Mouse.*

Inhabits *India*; half the size of the common mouse.

Body dusky, whitish beneath; *tail* length of the body; *ears* short, round, naked.

Barbarus. Tail middle length; body brown with 10 pale stripes; 3 toes before, 4 behind. *Barbary Mouse.*

Inhabits *Barbary*; less than the common mouse; *tail* naked, annulate, length of the body.

Mexicanus. A large reddish spot each side the belly. *Mexican Mouse.*
Inhabits *Mexico*; whitish mixed with red.

C. Tail round, hairy.

Virginianus. Tail entirely hairy, thick at the base, long, tapering. *Virginian Mouse.*

Inhabits *North America*, in corn fields and pastures.

Body white; *nose* black, pointed; *ears* sharp; *limbs* slender.

Saxatilis. Tail longish; ears longer than the fur; fore-feet 3-toed, with the appearance of a fourth. *Rock Mouse.*
Inhabits

Inhabits *Siberia*, in the clefts of rocks, 4 inches long; feeds chiefly on the seeds of the *Astragalus*.

Snout acute, brown; *ears* oval, brown; *back* brown mixed with yellow; *belly* whitish; *feet* blackish; *tail* brown above, white beneath.

Coccyz. Tail middle length, hairyish; fore-feet 4, hind 5-toed; body blue, whitish beneath. *Blue Mouse.*

Inhabits *Chili*; in size and appearance resembles the field mouse; very timid, forms large burrows divided into many chambers, collects vast stores of bulbous roots, which the natives search carefully after.

*Amphibi-
25.* Tail middle length; ears hardly above the fur; feet 3-toed, with the appearance of a fourth. *Water Rat.*

2. Tail a little hairy; fore-feet 3-toed, with the appearance of a fourth, hind-feet 5-toed; ears shorter than the fur.

3. Black; resembles 2 in structure.

4. Uniformly blackish.

5. Back with a large white spot; on the breast a white line.

Inhabits *Europe*, *Northern Asia*, and *North America*; burrows in banks about ponds and ditches, meadows and gardens; fierce, swims, dives, lives much in water; feeds on roots, bark of trees, frogs, insects, and small fish; flesh sometimes eaten; female smaller, and lighter coloured than the male; teats 8, 4 pectoral, 4 abdominal; brings 8 young.

Body 7 inches long, *tail* 3; *snout* short, thick; *ears* oval, hairy at the margin; *tail* covered with short, black hair, whitish at the tip.

Alliarius. Tail short; ears largeish, a little hairy; body cinereous, beneath whitish. *Garlic Mouse.*

Inhabits *Siberia*; feeds on the roots of garlic, which it hoards up in large quantities; $4\frac{1}{2}$ inches long.

Fore-feet 4-toed; *tail* white, with a brown stripe; *ears* large, open, naked; *teats* 8.

Rutilus. Tail short; ears longer than the fur; fore-feet 3-toed, with the rudiments of a fourth; body above reddish, beneath whitish. *Red Mouse.*

Inhabits *Siberia*; lives in holes and hollow trees, in winter in sheaves of corn, granaries and houses; feeds on grain, flesh and roots; runs all the winter among snow; $3\frac{1}{2}$ inches long.

Feet hairy, white; *tail* above yellowish with a brown stripe, beneath white, hardly an inch long; *face* bristly.

Gregalis. Tail short; ears longer than the fur; fore-feet 3-toed, with the rudiments of a fourth; body greyish.

Gregarious Mouse.

Inhabits Eastern *Siberia*: burrows in dry fields, with many holes leading to chambers where are deposited stores of roots, chiefly of garlic and lilly; eats sitting up; male 4, female 5 inches long.

Oeconomus Tail short; ears shorter than the fur; fore-feet 3-toed, with the rudiments of a fourth; body brown.

Economic Mouse.

Inhabits *Siberia*, in damp meadows, forming burrows with many chambers and entrances, where it stores for winter use bulbous roots and farinaceous seeds; wanders in troops in a straight line even over rivers, and is preyed on by birds, fish and wild beasts; their hoards are sought after by the natives, and the animals themselves eaten; body 4 inches, tail 1.

Laniger. Tail middle length; fore-feet 4-toed, hind 5; body cinereous, woolly.

Woolly Mouse.

Inhabits Northern *Chili*; burrows, is cleanly, docile, tame; feeds on bulbous roots, chiefly onions; female brings twice a year 5—6 young; 6 inches long.

Ears small, acute; snout short; hair long, soft, formerly used by the Peruvians for the finest wool.

Arvalis. Tail short; ears above the fur; fore-feet 3-toed, with the rudiments of a fourth; body brown.

Meadow Mouse.

Inhabits *Europe*, *Siberia*, and *Newfoundland*, in hedges, corn fields, gardens, near water; feeds on corn, nuts, acorns, which it stores up; is the prey of cats and many wild animals; brings many times a year 8—12 young; 3 inches long.

Head large; nose blunt; belly pale; tail tufted at the tip.

Socialis. Tail short; ears round, very short; fore-feet 3-toed, with the rudiments of a fourth; body pale, beneath white.

Social Mouse.

Inhabits sandy deserts between the *Volga* and *Ural* rivers, in families of male and female with their offspring; feeds on tulip roots; is the prey of crows, otters and weels; a little more than 3 inches long.

Lagurus. Tail short; ears shorter than the fur; fore-feet 3-toed, with the rudiments of a fourth; body cinereous, with a longitudinal black line.

Hare-tail'd Mouse.

Inhabits

Inhabits the sandy and muddy deserts on the *Ural* and *Irtish*, each in a round, narrow burrow; migrates in swarms; feeds on the dwarf iris and smaller species of mice; slow, sleeps much rolled up, is not torpid in winter; brings many times in a year 5—6 young: $3\frac{1}{2}$ inches long.

Tail hardly appearing beyond the fur; belly and feet pale ash; lips rough, swelling.

Agustus. Tail short; ears shorter than the fur; fore-feet 5-toed; body rusty, variegated; round the neck a whitish collar; a dark line along the back. *Collared Mouse*.

Inhabits the *Uralian* mountains, and marshes of the *Frozen Sea*; feeds on lichens and bulbous roots, which it hoards in its burrows; migrates in troops; 3 inches long.

Body variegated with grey, yellow and dark-rusty; fur fine; tail truncate, with a tuft of bristles at the end.

Lemus. Tail short; ears shorter than the fur; fore-feet 5-toed; body tawny varied with black, beneath white.

Lemming.

Inhabits the mountains of *Norway* and *Lapland*; feeds on grails, lichens; bites, hisses, burrows under the snow in winter; before the approach of a hard frost migrates in vast armies in a straight line, chiefly by night, in spite of every obstacle even rivers and houses; destroys all vegetation in its progress, and lays waste the country it passes through; will even attack man; is preyed upon in its journey by birds, beasts, and many reptiles, so that few return in the spring to the mountains; size of the last.

Whiskers long, 6 of the hairs on each side longer than the rest; upper lip divided; ears small, round, reflected; belly white, tinged with yellow.

2. Smaller, more uniformly tawny.

Inhabits *Siberia*; burrows and lays up stores; does not migrate.

Hudsonius. Tail short; ears 0; hind-feet 5-toed; dorsal stripe brownish-yellow; breast and belly white. *Hudson's Mouse*.

Inhabits *Labradore*; 5 inches long.

Body chiefly cinereous, a pale tawny stripe along the sides; tail terminated with long, stiff, dirty-white hairs; feet short.

Lena. Tail short, covered with coarse hair; toes 4 before, 5 behind; body white. *Lena Mouse*.

Inhabits the banks of the river *Lena*; 3 inches long.

D. Cheeks

D. *Checks pouched.*

Acredula. Ears plaited; body grey, beneath whitish. *Siberian Hamster.*
Inhabits *Siberia*, near the *Ural*; 4 inches long; lives in burrows, seeks food by night.

Snout thick, upper lip deeply divided; fore-teeth upper yellow, convex, truncate; lower sharp; tail short, round, brown above, white beneath; 1 inch long; legs white.

Cricetus. Body beneath deep black; sides with 3 white spots. *German Hamster.*

2. Entirely black, except the tip of the nose, edges of the ears, and feet, which are white.

Inhabits northern parts of *Europe*; forms burrows with many chambers and 2 entrances, one oblique in which the excrements are deposited, the other perpendicular; feeds in summer on herbs, roots, fruit, rarely flesh; collects in autumn for winter store various farinaceous seeds, which it carries off in its pouches; sleeps one part of the winter; female gravid once a month, brings 6—9 young; runs slow, does not climb, digs dexterously; sits on its hind-feet; is the prey of vultures, dogs, cats, vermin and man; is destroyed by arsenic or hellebore made into a paste; 10 inches long, female 5.

Colour sometimes varying to white, yellowish or spotted; toes 4 on the fore-feet, with the rudiments of a fifth, 5 on the hind-feet; tail $2\frac{1}{2}$ inches, covered with long hair; feet short, white.

Arenarius. Body above cinereous, beneath, on the sides and limbs snowy. *Sand Rat.*

Inhabits the deserts of *Baraba*; fierce, untameable; burrows, feeds by night on leguminous plants and seeds.

Head large, snout long; whiskers longer than the head; fore-feet 4-toed; hair soft; $3\frac{1}{2}$ inches long.

Phæus. Body and tail dark cinereous; beneath white. *Zaryzyn Rat.*
Inhabits the deserts of *Siberia*, and mountains of *Persia*; devours fields of rice, does not become torpid: $3\frac{1}{2}$ inches long.

Mouth white at the circumference; limbs white at the ends; eye lids black at the edges; ears, and stripe down the tail brown.

Songarus. Back cinereous, with a longitudinal black line; sides variegated white and brown; belly white. *Songar Rat.*
Inhabits sandy deserts of *Siberia*; burrows and forms repositories for grain, easily tamed, 3 inches long.

Tail thick, blunt, hairy, not $\frac{1}{2}$ an inch long; rudiment of the thumb without a claw; whiskers shorter than the head, ears longer; feet white. *Furuncu*

Baraba Rat. Body grey above; dorsal stripe black; beneath whitish.

Inhabits the deserts of Baraba, near Ob and Dauria; 3 inches long, tail 1; feeds on farinaceous seeds.

Ears large, oval, black edged with white; tail slender, acute; rudiment of the thumb with a claw.

E. Ears 0; eyes small; tail short or 0; subterraneous.

Talpines. Body brown, tail short; fore-teeth wedged; ears 0; fore-feet 5-toed, formed for digging. *Talpine Mole-rat.*

2. Entirely black.

Inhabits the turfy plains of Russia; forms chambers under the sod, in which it deposits various bulbous roots; is not torpid in winter; sight weak in the day; brings 3—4 young; 3½ inches long.

Nose truncate; eyes hid in the fur; chin white; belly and limbs whitish.

Cape Rat. Tail short; fore-teeth wedged; ears 0; fore-feet 5-toed; mouth white. *Cape Mole-rat.*

Inhabits the Cape of Good Hope; infests gardens.

Head rounded; hair longish, brown, tip with yellow; orbits and nape of the neck white; ears with a longitudinal white spot; inner toe short, 2 next long, fourth shorter, outer very short; 5½ inches long.

Maritime Rat. Tail short; upper fore-teeth furrowed; ears 0; feet 5-toed; body above whitish mixed with yellowish, sides and belly grey-white. *African Mole-rat.*

Inhabits the land hills on the coasts of the Cape of Good Hope, which it excavates into burrows; feeds on bulbous roots; runs slow, digs quick, bites, is good eating; 12—13 inches long.

Head large, nose black, flattened, wrinkled at the end; lower fore-teeth long, moveable; tail flattened, hairy, bristly at edges.

Daurian Rat. Tail short; fore-teeth wedged; ears 0; claws of the fore-feet long. *Daurian Mole-rat.*

Inhabits Dauria and Siberia; digs long burrows with its snout and feet, forming numerous hillocks; feeds on bulbous roots; 5—9 inches long.

Tail round, blunt, naked; body above greyish-yellow, beneath pale ash; head of some with a white line.

Typhlus.

Typhlus. Tail 0; fore-feet 5-toed; fore-teeth broad; eyes, ears 0. *Blind Mole-rat*

Inhabits *Southern Russia*; each animal forming a long burrow under the turf with its snout, teeth, feet and rump; feeds on bulbous roots; when irritated gnashes its teeth and bites; quite blind, but has 2 small excrescencies covered with skin; senses of smell, touch and hearing very acute; teats brings 2—4 young; 7—8 inches long.

Hair soft, close, ferruginous mixed with grey; fore-teeth wrinkled, upper short, lower long; mouth and nose white; tail slightly palmate.

28. ARCTOMYS. Fore-teeth wedged, 2 each jaw: grinders upper 5 each jaw lower 4: clavicles perfect. *Marmota*

These become torpid in the winter, ramble by day, feed on grass and roots, climb, burrow: head gibbous, rounded; ears short or 0; body thick; tail short, hairy; fore-feet 4-toed, with very short thumb, hind-feet 5-toed; caecum large.

Marmota. Ears short, round; body brown, beneath reddish. *Alpine*

Inhabits dry open places on the summits of the *Alps* and *Pennines*; feeds on roots, herbs, insects, and when tamed whatever is offered; drinks little, basks in the sun; lives among its tribes, with a centinel placed to give notice of danger, which is done by a hiss; forms a burrow with many chambers, entrances for the summer, another lined with soft grass in which it remains torpid during winter; eats with its fore-paws, walks on its heels, often erect; is easily caught when out of its burrow; in a tame state very destructive to food, clothing and furniture; hardly kept awake in winter even in its chambers; gravid 7 weeks, bring 2—4 young: 16 inches long, tail 6.

Head thick, crown flat; snout thick, obtuse, erect when the animal sits up; two bones of the lower jaw moveable; ears brownish cinereous; cheeks covered and surrounded with long whiskers 6 rows each side; a black wart above the eyes with 6 bristles, beneath with 7; body short, thick; a suture from the throat to the anus; feet short, fore-thumb conic, flat, dusky; tail straight, covered with long hair, black to the tip; flesh tender; fat and skin used by the mountaineers in various remedies.

Monax. Ears short, round; snout blueish; tail longish, hairy; body grey. *Maryland M.*

Inhabits warm parts of *North America*, in holes of rocks, wintering under hollow trees; size of a rabbit; flesh good.

Snout acute; claws long, sharp; tail half the length of the body, blackish.

Beise. Ears small, oval; tail hairy; fore-thumb clawed; body grey, beneath yellowish.

Inhabits dry and sunny mountains of temperate *Asia* and *China*, in deep burrows; lives in families of 20—24; goes abroad morning and mid-day leaving a sentinel at the entrance of its den; timid, feeds on vegetables; defends itself with its fore-paws: sits on its haunches: easily tamed: eats with its fore-feet: in summer voracious: sleeps in winter: flesh good: fat used for dressing leather and furs: 16 inches long, tail $4\frac{1}{2}$.

Eyes small: tail annulate with dusky, tip black: teats 8.

Expetra. Ears short, round; tail hairy; body above mixed grey, beneath orange. *Canadian M.*

Inhabits *North America*, tame, hisses; 11 inches long, tail $2\frac{1}{2}$.

Head round; nose blunt; cheeks full, grey; hair of the back grey at the roots, middle black, tips whitish; feet black, naked, 4-toed, with the rudiments of a thumb before, 5-toed behind; claws strong.

Pringfa. Ears short, oval; tail, feet black; hair of the back, sides and belly long, harsh, hoary. *Hoary M.*

Inhabits *North America*; resembles in habits *A. monax*: size of a rabbit.

Nose black at the tip; cheeks whitish; crown and claws brown; hair cinereous at the base, middle black, tips white; toes 4 before, 5 behind.

Sustica. Ears very short; tail hairy, short; body above yellowish-brown with many small white spots. *Casan M.*

Inhabits *Casan* and *Austria*, in holes on the declivities of mountains; burrows deep, winding, with several entrances and many apartments in which are stored pulse and corn; size of a large rat.

Head and body lengthened; face, breast and belly pale yellow; tail yellowish-brown; toes 4 before with a short thumb, 5 behind, 2 outer short, 3 other long.

Citillus. Ears 0; tail very short; body cinereous; nose blunt.

Earless M.

Inhabits

Inhabits Hungary, Austria and Poland; a foot long.

Zemni. Ears short; body mouse-grey; feet 5-toed; eyes minute, concealed. *Podolian M.*
Inhabits Russia, Poland, Persia, and China; strong, mischievous, larger than the last, resembles in habits *A. marmota*; the prey of birds and vermin; gravid 3—4 weeks, brings 3—8 young. Varies in colour and size, sometimes spotted with white; tail sometimes longish, with the hair shed like a squirrel.

Gundi. Ears wide, open, truncate; body brick-dust colour.
Inhabits Barbary, near Mount Atlas; size of a small rabbit; burrows in long deep caves.
Tail short; fore-teeth upper large, truncate, lower slender, pointed; feet 4-toed, clawed.

Hudsonius Ears short; tail 0; body brown-ash. *Taillefs M.*
Inhabits Hudson's Bay.
Hairs tipped with white; fore-teeth upper 2, lower 4.

Maulinus. Ears sharp; feet 5-toed; body reddish-brown. *Chilese M.*
Inhabits woods of Chili; 2½ feet long.
Snout long; whiskers 4 rows; tail a little hairy.

29. **SCIURUS.** Fore-teeth 2, upper wedged, lower acute: grinders upper, each side 5, lower 4: clavicles perfect: tail shed each side: whiskers long. *Squirrel.*

These are usually active, elegant, easily tamed, and climb dexterously, leaping from tree to tree; a few are subterraneous; they live mostly on seeds and fruit; some leap in running, some are furnished with a flying membrane. Body thickish; feet short, toes 4 before with the rudiments of a thumb, 5 behind; head broad; ears long, oval; tail long, hairy, generally turned over the back.

A. Flying membrane 0; climbers.

* *Vulgaris.* Ears bearded at the tip; tail colour of the back.

Common Sq.

2. Upper parts reddish-brown; breast and belly white.
3. Tail pure white.
4. In winter blueish-ash; in summer red, belly white.
5. Uniformly black.
6. Entirely white; eyes red.
7. Glossy silver-grey; larger.

Inhabits

Inhabits *Europe*, and temperate parts of *Asia*, in trees and woods; varies from dark to light according to climate; feeds on nuts, acorns and berries; hides what it cannot eat; eats with its fore-paws sitting on its haunches; drinks little, in winter quenches thirst with snow; leaps to a vast distance, and is said to pass rivers upon a piece of bark or wood erecting its tail for a tail: forms a round nest of moss; when sitting shades its back with its tail; flesh good; is preyed upon by vermin, serpents, and birds of prey; gravid a month; brings 3—7 twice a year; winter skins valuable.

Albipes. Ears slightly tufted; body above reddish-brown, beneath white; tail dusky. *White-legged Sq.*
Inhabits *Ceylon*; tail shorter than the last.

Niger. Ears not bearded; body black. *Black Sq.*
2. Nose, neck, and tip of the tail white.
Inhabits *North America* and *New Spain*; gregarious; mischievous to fields of maize; tail shortish.

Vulpinus. Ears not bearded; body tawny mixed with ash, large. *Cat Sq.*
2. White; throat, inside of the legs and thighs black.
Inhabits *North America*; size of a small rabbit; fur coarse; ears at the tips, and tail tawny.

Cinereus. Ears not bearded; body cinereous; belly white. *Grey Sq.*
Inhabits *North America*, and *Peru*; builds in hollow trees; lays waste plantations of maize; forms subterraneous magazines for winter provision; destroyed by the rattle snake; size of a small rabbit.
Tail long, bushy, striped with black.

Hudsonius Ears naked; back dark-grey; belly ash; tail dark-grey, annulate and tipped with black. *Hudson's Bay Sq.*
Inhabits the pine forests of *Labradore*; smaller than the common squirrel.

Carolinensis. Ears naked; body mixed grey, white and rusty; beneath white; tail brown mixed with black and edged with white. *Carolina Sq.*
Inhabits *Carolina*; size of the last, variable in colour.

Virginianus. Body mixed dirty-white and black; fur coarse. *Virginian Sq.*
rus. Inhabits

Inhabits *Virginia*; size of *S. cinereus*.

Throat, insides of the legs and thighs black; tail short, dull yellow.

Perficus. Ears plain; body dark, sides white, belly yellow; tail mixed black and ash, with a white ring. *Persian Sq.*

Inhabits the higher mountains of *Persia*; resembles *S. vulgaris*, but does not vary in colour; soles reddish.

Anomalous. Ears plain, rounded; body above yellow mixed with brown, beneath dark tawny; tail same as the upper parts.

Georgian Sq.

Inhabits *Georgia* in *Asia*; larger than *S. vulgaris*.

Mouth white; nose black at the tip; cheeks yellow; whiskers and orbits brown; ears flame-coloured, within whitish.

Bicolor. Ears plain, acute; body above black, beneath tawny; thumb-claw of the fore-feet large, rounded. *Javan Sq.*

Inhabits *Java*; a foot long, tail the same.

Ears hairy; hind-feet black; tail tip with black.

Erythrus. Ears slightly bearded at the tip; body above mixt yellow and brown, beneath red mixed with tawny; tail the same, with a longitudinal dark stripe. *Ruddy Sq.*

Inhabits *India*, larger than *S. vulgaris*; a large warty protuberance instead of the thumb.

Macrourus. Tail grey, twice as long as the body. *Ceylon Sq.*

Inhabits *Ceylon*; thrice as large as *S. vulgaris*.

Ears tufted with black; body above black, beneath pale yellow; nose flesh-coloured; cheeks with a black bifurcate streak; spot between the ears yellow.

Maximus. Ears a little tufted; body reddish-brown, beneath black; tail black. *Malabar Sq.*

Inhabits the *Malabar* coast and *Indian Mahé*; size of a cat; voice loud; feeds on the milk of cocoa nuts.

Ears small, erect; hair long; claws large, black; thumb a warty excrescence with a claw.

Abyssinicus. Body above rusty-black, beneath cinereous; tail a foot and half long. *Abyssinian Sq.*

Inhabits *Abyssinia*; size of the last, probably only a variety; good natured, sportive; nose, soles flesh-coloured.

Indicus.

Indicus. Ears tufted; body above dull purple, beneath yellow; tail orange at the tip. *Bombay Sq.*
Inhabits India about Bombay, 16 inches long.

Flamm. Ears plain, roundish; body pale yellow; tail round. *Fair Sq.*
Inhabits near Carthagena in America; very small.
Hair white at the tips; fore-thumb consists of only a small nail.

Palmarum. Body greyish with three yellowish stripes; tail annulate with whitish and black. *Palm Sq.*
Inhabits hot parts of Asia and Africa; feeds on cocoa nuts, and is fond of the wine made from the palm tree; not 3 inches long.
Tail erect, not shadowing the body; ears short, broad, hairy, roundish.

Cetulus. Body brown, with 4 whitish longitudinal stripes. *Barbary Sq.*
Inhabits Barbary; 5 inches long.
Body beneath white; tail striate; thumb-wart o.

Bedjing. Body pale chesnut, with a yellow stripe along the sides. *Plantane Sq.*
Inhabits Java, very shy, resembles *S. vulgaris*.

Striatus. Body yellowish, with 5 longitudinal brown stripes. *Ground Sq.*

2. Body pale, with 4 stripes.

Inhabits Northern Asia, 2) America and New Spain; burrows under ground; has cheek-pouches in which it brings its winter stores; feeds on various seeds and grain; destructive to corn plantations; very wild; $5\frac{1}{2}$ inches long, 2) a little longer.
Head oblong; ears short, round, naked; body slender; feet short; hair short, rough. 2) Back with a longitudinal black stripe; sides with a pale yellow stripe bounded above and below with a black line; nose and feet pale red.

Astians. Body grey above, beneath yellow; a white stripe along the belly; tail round, annulate black and yellow. *Brazilian Sq.*

2. Body mixed dusky and yellow; sides with white stripes; tail black.
Inhabits Brazil and Guiana; more than 8 inches long, tail 10; ears roundish, plain; fur soft.

Dschin-

Dschin-schicus. Body brick-dust colour; lateral stripes and orbits white; tail black. *Carnatic Sq.*
Inhabits *Indian Carnatic*; larger than *S. vulgaris*.

Variegatus Body above variegated with black, white and brown; belly yellow. *Varied Sq.*
Inhabits *New Spain*; burrows and collects stores of grain under the roots of trees; twice as large as *S. vulgaris*.
Ears short, plain, white; *mouth* white; *head* orange mixed with the other colours; *whiskers* long, black; *claws* black.

Degus. Body dusky-yellow; a black line on the shoulders. *Chilese Sq.*
Inhabits *Chili* in large societies; burrows and lays up stores of fruits and roots for winter provision; does not become torpid; flesh sometimes eaten by the natives; larger than the black rat.
Head short; *snout* acute; *ears* rounded; *tail* colour of the body, bushy at the tip.

Mexicanus Body brownish-ash, with 5—7 whitish longitudinal stripes. *Mexican Sq.*

Inhabits *New Spain*; $5\frac{1}{2}$ inches long, *tail* a little longer; *ears* plain at the margin; *male* 7, *female* 5 stripes.

2. Body uniform in colour; scrotum large, pendulous.

Bancrofti. Body above pale yellowish-brown; sides and belly white; tail long, hairy, spotted. *Guiana Sq.*
Inhabits *Guiana*; resembles *S. vulgaris*.

Guajanensis. Body reddish, very small. *Cayenne Sq.*
Inhabits *Cayenne*; lives solitary on trees; feeds on seeds; naturally fierce, but may be tamed; brings 2 young, once a year; size of a rat.

Madagascarensis. Middle toe of the fore-foot naked, very long; thumb-nail of the hind-feet rounded. *Madagascar Sq.*
Inhabits the eastern side of *Madagascar*; lives under ground; slothful, timid, slow; feeds on worms, which it draws with its claws from the hollows of trees.
Ears large, flat, black, very hairy; bunches of hair above the eyes and nose, on the cheeks and chin; under fur downy, upper long, black; face and throat whitish-tawny; tail flattened, 18 inches long, upper half white the rest black; toes of the fore-feet long, of the hind-feet 4, sharp, hooked.

Capensis.

Capeus. **Body** above pale rusty mixed with black; a white line from the shoulder down each side; tail black in the middle, sides hoary; ears scarcely visible. *Cape Sq.*

Inhabits the northern mountains beyond the *Cape of Good Hope*; lives in burrows; never climbs; feeds on bulbous roots; very tame: size of *S. vulgaris*, but broader.

Head flat; *nose* blunt; upper *lip* cleft; *whiskers* long; *belly* dirty-white; *hind-legs* black, naked behind: above the *eyes* a white line: *toes* long, distinct, with a wart instead of a thumb: *claws* long.

B. *With a flying membrane.*

Volucella. **Membrane** moderate; tail long, hairy. *Flying Squirrel.*

Inhabits the warm and temperate parts of *North America*: lives in troops among the woods: feeds on fruit and seeds which it collects in the evening and by night, sleeping by day in nests formed among the leaves: easily tamed: 5 inches long.

Head thickish: *eyes* large, prominent, black: *ears* round, pellucid, nakedish, grey-ash: *whiskers* black, longer than the head: *neck* short: *hair* soft, glossy, above cinereous with yellow tips, beneath white in the middle surrounded with cinereous: *tail* round, 4 inches long: *membrane* extended from the ears to all the legs and tail, on the fore-legs as far as the toes, on the hind-legs as far as the ankles: by means of this membrane it is able when stretched out to suspend itself in the air and swim.

Virginia-nus. **Membrane** including the chin and ears; body above reddish, beneath yellowish-ash. *Virginian flying Sq.*

Inhabits *Virginia*. *Ears* large, oval: probably only a variety of the last.

Hudsonius **Membrane** not including the fore-legs; body above reddish-brown, beneath yellowish-white; tail flat, hairy.

Inhabits *North America* about *Hudson's Bay*: size of *S. vulgaris*: tips of the hair reddish-brown.

Polars. **Membrane** large, extending to the base of the fore-feet; tail rounded at the end, hairy. *Lapland flying Sq.*

Inhabits the beech woods of *Siberia*, *Lapland*, and *Poland*: larger than *S. volucella*: feeds on the buds and young shoots of the beech: solitary, wandering about by day, and even in the milder days of winter: forms a nest of moss in hollow trees: makes very large leaps by means of its wide extended membrane: hisses and is very wild and biting: brings 2—4 young.

Ears

Ears naked, indented at the outer edges: *eyes* full, surrounded with black: *tail* when at rest laid over the back: *body* above whitish russet, beneath white.

Sagitta. Body above rusty-brown, beneath paler; tail much flattened, truncate. *Javan flying Sq.*

Inhabits *Java*; size of *S. vulgaris*.

Membrane reaching to the wrists before, and to the knees behind, fringed at the edge: *head* oval: *ears* oval, blunt, hairy: *whiskers* as long as the head, one bristle on the cheek: *upper lip* cleft, lower short: *teeth* brown, obtusish: *toes* 4 before 5 behind: *fore-feet* with a long spur within the membrane: *hind-legs* fringed behind: *toes* with the fore-joint prominent: *claws* compressed sideways: *scrotum* oval, large, hairy: *prepuce* long, hairy: *tail* long as the body.

Petaurista Body above deep chestnut, beneath pale rusty; or above black, beneath hoary; tail longer than the body, very hairy, round, blackish, rusty in the middle.

Inhabits the islands of the *Indian Ocean*; $1\frac{1}{2}$ foot long.

Head rounded: *whiskers* and *claws* black: *teats* 6 pectoral and abdominal: *pupils* long, narrow, like those of the cat.

Australis. Body above blackish-brown, beneath whitish; hind-thumbs rounded; tail long, bushy; ears large.

Southern flying Sq.

Inhabits *New South Wales*; the largest and most elegant of its tribe.

Membrane somewhat scolloped at the edges, paler: *fur* exquisitely soft: *ears* longish: over each *eye* a black stripe: *claws*, except of the hind-thumbs sharp, hooked: 2 toes next the hind-thumb united by the skin.

Norfoicensis. Body above dark grey, beneath white; a dusky black dorsal line from the nose to the tail; ears short; tail long, bushy.

Inhabits *Norfolk island*; 9 inches long, tail 10.

Membrane above black edged with white: each side the *head* near the nostrils a black line, reaching over the eyes and above the ears: *tail* first 2-thirds cinereous, the rest dusky black.

30. MYOXUS. *Fore-teeth* 2, upper wedged, lower compressed sideways: *whiskers* long: *tail* hairy, round, thicker towards the tip: *feet* nearly equal in length, 4 toes before. *Dormouse.*

These all remain torpid during winter; walk or rather leap on their hind-legs, bounding 3—4 feet at a time, in which they are assisted by the long stiff tail; feed only on vegetables, burrow under ground; sleep by day, watch by night; carry food to the mouth by the fore-paws, and drink by dipping the fore-palms in water.

- Glir.* Body hoary, beneath whitish. *Fat D.*
Inhabits in the woods of *Europe* and southern *Asia*; feeds on nuts, walnuts, apple-seeds; forms its nest in hollow trees; bites; sleeps by day; grows very fat in autumn; about October retires by troops into subterraneous caverns, and remains torpid till the end of May; brings 9—12 young; flesh formerly esteemed a delicacy by the Romans; 6 inches long, tail 5. *Ears* thin, naked; *cheeks* white; *whiskers* longer than the head; *teats* 10, 6 pectoral, 4 abdominal.

- Dryas.* Body above tawny-grey, beneath dirty-white; a straight black line from ear to ear across the eyes. *Wood D.*
Inhabits *Europe*; differs from the rest only in colour, *tail* shorter, more bushy; no black spots near the ears.

- Nitela.* Body above tawny, beneath whitish-ash; a black circle round the eyes, and a black spot behind the ears.

Garden D.
Inhabits southern parts of *Europe* and *Siberia*, chiefly in gardens, where it destroys all kinds of fruit, especially peaches; makes its nest in holes of walls and hollow trees; smells like a rat; brings 5—6 young; body 5, tail 4 inches long. *Eyes* large, black; *ears* oblong; *tail* bushy at the end.

- *Muscardinus.* Body tawny; throat whitish; hind-thumbs without claws. *Common D.*

Inhabits *Europe*, in woods and thick hedges, seldom in gardens, collects nuts and walnuts, which it eats sitting upright, and buries what is left; forms a nest of grass, moss or leaves in the hollow of a tree or a low bush; torpid in winter; brings 3—4 young; body 3 inches long, tail somewhat longer.

Eyes large, black, prominent; *ears* short, round, naked, thin; *tail* bushy at the tip; *body* plumper than the mouse.

31. **DIPUS.** *Fore-teeth* 2 each jaw: *fore-legs* very short, *hind-legs* very long: *tail* long, tufted at the tip. *Ferboa.*

These in their habits resemble dormice; by means of the long hind-legs make prodigious bounds, and use the fore-paws to carry food to the mouth.

Jaculus. Feet 4-toed; fore-feet with a claw instead of the thumb.

Common ♀.

Inhabits *Egypt*, *Arabia* and south *Siberia*, in firm ground and fields covered with herbage; is not easily tamed; rests with the hind-legs under the belly, and fore-legs near the throat so as not to be easily seen; forms long winding burrows, with a chamber at the end half a yard below the surface; feeds on roots, grain, grass; cuts grass which when dry it carries into its retreats for winter provision; flesh eaten by the *Calmucs* and *Arabs*; body 7 inches long, tail 10.

Hind-legs 3 times as long as the fore; *thighs* naked; *tail* pale brown, black at the end, tip white; *teats* 8, distant; *hair* above pale brown, beneath whitish; *ears* and *feet* flesh-coloured.

Sagitta. Hind-feet 3-toed; thumb-claw 0.

Arabian ♀.

Inhabits *Arabia* and *Siberia* near the *Irtish*, in sandy plains; 6 inches long.

Head rounded; *ears* longer than the head; *toes* hairy; *tail* with a small tuft.

Ægyptius. Hind-feet 3-toed; fore-thumb with a claw. *Egyptian ♀.*

Inhabits *Egypt* and *Barbary*, on sandy plains and hills.

Body thin, flattened at the sides; *hair* on the head and upper parts long, soft, cinereous at the roots, pale tawny at the ends; *breast* and *belly* whitish, with a dusky band across the upper parts of the thighs.

Salicis. Hind-feet 3-toed, with two spurious toes above; fore-thumb-claw 0. *Siberian ♀.*

1. Body $8\frac{1}{2}$ inches long, tail 10.

Nose truncate, edged with white; *ears* large, pointed, white at the tips, naked within; *hair* above and on the thighs dark-grey at the roots, tawny at the ends; *breast*, *belly* and *legs* white.

2. Body size of a rat; colour of the last; a white line across the top of each thigh.

3. Colour

3. Colour and size of 2; nose more lengthened.

Ears shorter, broader; *tail* thicker; *hind-legs* shorter; *fur* longer.

4. Much smaller; resembles 1, but wants the white edge on the nose.

These varieties chiefly inhabit *Tartary*, *Siberia*, *Syria* and *India*; feed on bulbous roots, and when tained raw flesh.

Cape.

Toes 5 before, 4 behind.

Cape ♀.

Inhabits the *Cape of Good Hope*; 14 inches long, tail 15, ears 3; very strong; leaps 20—30 feet; burrows with the fore-feet; sleeps sitting on the haunches, the head between the legs, and the fore-paws over the ears; is driven out of its hole by water poured in; grunts and is eaten by the natives.

Body above bright chestnut, beneath yellowish-white; tail very hairy, black at the tip.

*Meridia-
nus.*

Fore-feet 3-toed, with the rudiment of a fourth; hind-feet 5-toed; tail colour of the body.

Torrid ♀.

Inhabits the sandy deserts of the torrid region near the *Caspian sea*; feeds on a few farinaceous seeds; forms burrows with 3 apertures about a yard under the surface; 5 inches long, tail 3.

Body above pale tawny, sometimes greyish; beneath white; head oblong, snout lengthened, neck short; ears large, oval; mouth and feet white; soles very hairy; fore-thumb with hardly any claw; hind-thighs very fleshy; tail thick, hairy.

*Tamarici-
nus.*

Fore-feet 3-toed, with the rudiment of a fourth; hind-feet 5-toed; tail obscurely annulate.

Tamarisk ♀.

Inhabits salt marshes of the *Caspian sea*; feeds on the fruit of the tamarisk, and burrows under it with 2 entrances; very elegant, $5\frac{1}{2}$ inches long, tail the same.

Body above yellowish-grey, beneath white; ears large, oval, nakedish; wart in the place of the thumb large; tail hairy, a little tufted at the tip.

*Labrado-
rius.*

Fore-feet 4-toed, with the rudiment of a fifth; hind-feet 5-toed, thumb short; tail taper, nakedish.

Labradore ♀.

Inhabits *Hudson's Bay*; 3 inches long, tail $4\frac{1}{2}$.

Nose blunt; mouth much underneath, upper lip cleft; ears large, round, naked; body above deep brown, beneath white, a longitudinal yellow line dividing the colours.

*Circassi-
cus.*

Body chestnut, lengthened, of equal thickness; tail long, bushy.

Circassian ♀.

Inhabits near the river *Terek* in *Circassia*; burrows in the ground, runs fast up hill; 4 inches long.

Eyes red, fiery; teeth sharp; hair long; claws sharp.

O 2

Canadensis.

Canadensis Toes 4 before, 5 behind; tail covered with bristles, longer than the body. *Canada* *J.*

Inhabits coldest parts of *Canada*; size of a small mouse; frequents shrubby places; active, caught with difficulty.

Body above ferruginous; sides paler, throat, belly and feet white; bristles on the nose reflected; tail taper, annulate with black. *Linn. transf.* 4. 155. tab. 8.

32. *LEPUS*. Fore-teeth 2, upper double, the interior ones less.

These are timid; live on vegetable food; run by a kind of leap; toes 5 before, 4 behind.

A. *With tails.*

Visiaccia. Tail long, bristly.

Peruvian Hare.

Inhabits colder parts of *Peru* and *Chili*; digs holes under ground with two chambers, in one of which it sleeps, and feeds in the other; collects food in the night; defends itself by the tail, probably by scattering urine in the eyes of its enemies; flesh white, tender; fur very soft, fine, formerly woven into cloth for the Incas of Peru.

**Timidus*. Tail short; ears black at the tip, longer than the head.

Common Hare.

2. With horns; (probably fabulous.)

3. Body straw-colour.

Inhabits *Europe*, *Persia*, *Asia*, and *America*; unarmed, timid, of exquisite sight and hearing, quick in flight especially up hill; runs in a circular direction when hunted, which circle it gradually lessens, and doubling back parallel to its path, makes a long leap at the turn to break off the scent from its pursuers; feeds by night on the shoots of young shrubs, bark of young trees and vegetables; is hunted by dogs, cats and hawks; fond of the sound of a drum; infested by fleas; urine fetid; breeds often; gravid 30 days; brings 3—4 young; 2 feet long.

Eyes large, placed much outwards, by which it is able see quite behind, provided with a nictitant membrane, open when asleep; chin white; nostrils humid, moveable; upper lip cleft; hair above white at the base, black in the middle, tawny at the tip, beneath white; throat and breast tawny; tail above black, beneath white; hind-thighs thick; feet woolly; a cavity on each side the region of the pubes.

**Variabilis.*

**Variabilis* Tail short; body white in winter, except the tips of the ears which remain black. *Varying Hare.*

2. Sides only turning white in winter.

Inhabits the northern hills of *Europe, Asia* and *America*; migrates in troops in winter into the plains, and returns in spring to the mountains; easily tamed, playful; fond of honey; eats its own dung before a storm; flesh hard.

Limbs shorter than *L. timidus*; *tail* composed of fewer joints; colour in the summer, head reddish-grey; ears and back brown; neck grey-brown; sides gradually growing paler; belly hoary.

Niger. Body black or dark-tawny the whole year. *Black Hare.*
Inhabits *Siberia* and *Cassan*; larger than *L. timidus*; glossy.

Americanus. Tail short; hind-legs half longer than the body; tips of the ears and tail grey. *American Hare.*

Inhabits *North America*; shelters by day under and in the hollows of trees; does not burrow; breeds twice a year, brings 5—7 young; *fur* gets longer and more silvery farther north; 18 inches long; *hind-legs* longer than *L. timidus*; flesh good.

Talai. Tail short; margin of the ears black. *Baikal Hare.*
Inhabits the deserts of *Siberia*; larger than the rest; runs straight forward, and takes shelter in hollow rocks; does not burrow; flesh white.
Body in summer resembles *L. variabilis*, in winter a little paler; *legs* smaller, *hind-legs* longer; *tail* black at the root.

Minimus. Tail short; ears hairy, of one colour. *Least Hare.*
Inhabits *Chili*, where it is domesticated; variable in colour, prolific, breeding almost every month; size of a rat; flesh white, good.
Body nearly conic; *ears* small, acute; *snout* oblong; *hair* fine, short.

Capeus. Tail bushy, long as the head; feet red. *Cape Hare.*
Inhabits north of the *Cape of Good Hope*; dwells in fissures of rocks, does not burrow; flesh white; size of a rabbit.
Crown and *back* dusky mixed with tawny; *cheeks* and *sides* cinereous; *breast*, *belly* and *legs* ferruginous.

**Cuniculus* Tail short, nearly the colour of the body; ears black at the tip; hind-legs shorter than the body. *Rabbit*

1. Body brownish-grey.

2. White,

2. White, with red eyes.
3. Black.
4. Variegated black and white.
5. Silvery grey; feet brown.

Inhabits the warmer parts of *Europe*, cold parts of *Asia* and *Africa*, in dry sandy soils; forms long winding burrows; keeps in its hole by day; feeds morning, evening and night on vegetables and grain; is the prey of hawks, badgers, polecats, and caught by ferrets: gravid 30 days, brings 4—8 young 7 times a year; 18 inches long; flesh white, good.

Ears shorter than the head; tail in a wild state black above, white beneath.

Saccatus. Skin behind the head and under the throat folded,

Hooded Rabbit.

Body cinereous; head and ears brown; skin capable of being drawn back and concealing the head, with 2 holes for the eyes; that below the throat occasionally receiving the forefeet; habitation unknown.

Angorensis Hair long, waved, silky.

Angora Rabbit.

Inhabits *Angora*; very beautiful; fur valuable.

B. Tail o.

Brasilien- Ears large; collar round the neck white. *Brasilian Hare*.
fis.

Inhabits *South America* in woods; does not burrow; flesh good; size of *L. timidus*, but darker; collar sometimes wanting.

Pusillus. Body brown mixed with grey; ears triangular, edged with white. *Calling Hare*.

Inhabits the mountains of *Ural*, and sunny hills of the *Altai* ridge; burrows in dry places; feeds on alpine vegetables; voice sonorous, which is heard all through the summer; sleeps little; drinks often; easily tamed; active in the night, and leaps as if its loins were weak; 6½ inches long.

Fur rough, above pale grey, blackish at the tips; beneath hoary head oblong; body slender, weak, unsteady; eyes dark limbs short.

Alpinus. Body bright tawny; ears rounded, brown; feet brown.

Alpine Hare

Inhabits mountains of the northern extremity of *Asia*, in rugged and inaccessible rocks, or the hollows of decayed trees; lies hid by day, except in cloudy weather; voice sharp like whistle; in August cuts soft grass, which when dry it collects
int

into conic ricks: these are covered by snow, and form its winter provision, to which it goes from its hole by a trodden path; they are from 3 to 5 feet high, and are sought after by hunters as provender for their horses; is preyed on by weefels, and infested by the *æstrus leporinus*, a species of gad-fly; body 7—9 inches long.

Face more stupid and wild than the last; *head* slenderer; *eyes* black; *ears* large; *body* shorter, thicker; *teats* 2 inguinal, 4 thoracic; *throat* on the upper part cinereous; *fur* dusky at the roots, bay at the ends, a little tip with white.

Ogotona. Body pale grey; ears oval, acutish, colour of the body.

Ogoton Hare.

Inhabits mountains beyond *Baikal*, *Mongolia*, and the deserts of *Gobi*, in rocky places and among heaps of stones; forms burrows in sandy places, of which for security it has several; wanders by night; feeds on the bark of mountain shrubs, and in summer on herbs which it gathers into heaps for winter use; voice very shrill; very active and hardly to be tamed; preyed on by weefels and birds of prey; $6\frac{1}{2}$ inches long.

Body very pale throughout the year; *feet* strong; *ears* brown; *nose* with a yellowish spot; *belly* white; *fur* brown at the roots, light grey in the middle, white at the tips.

33. HYRAX. *Fore-teeth* upper 2, broad, distant; lower 4, contiguous, broad, flat, notched: *grinders* large, 4 each side each jaw: *fore-feet* 4-toed: *hind-feet* 3-toed: *tail* 0: *clavicle* 0.

Cape H. Nails of the fore-feet flat; of the hind-feet 1, subulate.

Cape H.

Inhabits the *Cape of Good Hope*, 15 inches long; voice sharp; hearing acute, gait unsteady; feeds on vegetables; active, cleanly, drinks little, very fond of warmth, burrows in the ground; is troubled with lice and worms.

Head short, snout very short, blunt; *ears* oval, open, brown, woolly; *limbs* very short, the shoulders and thighs being hid in the fur; *body* short, thick, belly prominent; *hair* woolly, under hoary, above grey, on the sides dirty grey-white; along the back brownish, mixed with longer black hairs and a few bristles; *fore-feet* 4-lobed, each lobe with a flat round nail; *hind-feet* 2-lobed, and a toe furnished with a long sharp claw.

Syriacus.

Syriacus. Toes furnished with soft nails. *Syrian H.*

Inhabits *Syria*, among clefts of rocks; gregarious, mild, feeble, timid, easily tamed, has no cry; feeds on vegetables; flesh white, not eaten by the natives; 17 inches long.

Body more lengthened; *snout* longer than the former; *fur* reddish-grey; *throat*, *breast* and *belly* white; scattered among the rest are some long, strong, polished hairs; *whiskers* long; *nails* short, broad, weak, that of the inner hind-toe longer, *soles* formed of fleshy excrescencies divided by furrows.

ORDE

ORDER V. PECORA.

Fore-teeth upper 0, lower 6 or 8, remote from the grinders: feet hoofed: teats inguinal.

These animals have four stomachs, already described in the introduction; are hoofed, and have the hoofs divided in the middle; and, except the camel, have 2 false hoofs which in walking do not touch the ground. Such as have horns have no tusks; and such as have tusks have no horns; they chew the cud, and have frequently in the stomach a ball formed of the hair licked from their bodies; when in a recumbent posture they rise on the hind-legs first, and have suet instead of fat.

34. CAMELUS. *Horns 0: fore-teeth lower 6, spathiform: tusks distant, upper 3, lower 2: upper lip cleft.*

Dromedarius.

Bunch on the back single.

Arabian Camel.

Inhabits the temperate deserts of *Arabia, Asia and Africa*, is domesticated in all the east, *Jamaica and Barbadoes*; is subject to numerous varieties in size and colour; mild and gentle unless stung by flies; wonderfully useful for conveying heavy burthens over the dry sandy deserts; will carry 1200 pounds weight; moves slow, will not exceed its accustomed pace, nor carry beyond its usual weight; patient of hunger, will travel many days without water, content with the thorny shrubs found in the wilderness which have been rejected by other animals; kneels down to be loaded or unloaded at the command of its keeper; hair valuable; flesh and milk eaten by the Arabians; $6\frac{1}{2}$ feet high.

Hair soft, tawny-grey, longer on the neck and bunch; *head* small; *ears* short; *mouth* and *gums* covered with a cartilage; *neck* long, slender, curved; *feet* bifid; *callosities* on the fore-legs 4; hind-legs 2, breast 1, on which it rests when lying or kneeling; *tail* shorter than the legs, hairy; *second stomach* cellular, for the purpose of keeping water a long time in the dry deserts.

2. Much smaller, swifter.

Bactrianus Bunches on the back 2.

Bactrian Camel.

Inhabits western *India* and deserts near *China*, rarer than the last, chiefly used by great men; larger, swifter; hind bunch larger; is poisoned by box-wood; gravid a year, brings one young, which suckles 2 years, and is full grown the third.

Vol. I. — P

2. Hy-

2. Hybrid between this and the last.

- Glama.* Bunch on the breast; back smooth. *Lama.*
 Inhabits the high mountains of *Peru* and *Chili*; in its habits and manners resembling the last; $4\frac{1}{2}$ feet high. •
Head small, *nose* short; *neck* long; *ears* moderate; *eyes* large, round; *feet*, long, cleft; *tail* short; *hair* long, soft, varying with white, black and brown; *pectoral bunch* continually exuding a yellow oil; *voice* a kind of neighing; *teats* 2; *gravid* 5—6 months, brings 1 young; carries 150 pounds weight; *flesh* excellent, fat.
- Huanacus.* Body hairy; back gibbous; tail erect. *Huanaco.*
 Inhabits high mountains of *South America*, descending into the plains in winter: in manners and uses resembles the last, but never associates with it: 4 feet 3 inches high.
Body above yellow, beneath whitish: *tail* like that of the stag: *ears* like those of the horse: *flesh*, when young, good.
- Acucanus.* Body woolly, smooth; snout turned upwards; tail pendulous. *Peru Camel.*
 Inhabits *Peru* and *Chili*; resembling in many things the sheep: *tail* longer: *wool* finer: *body* white, black or brown: *flesh* good.
- Vicugna.* Body woolly, smooth; nose flat, blunt; tail erect.
 Inhabits the highest peaks of the *Andes*, in flocks: is timid, swift, patient of cold, caught by cords stretched across the path, and tamed with difficulty: carries small burthens: *flesh* good, *wool* silky.
 In its *tail* and figure resembles a goat: *neck* 20 inches long: *head* round, unarmed: *ears* small, erect, acute: *feet* long: *wool* fine, silky, roly, easily dyed: in its stomach is found a bezoar.
- Paco.* Bunches 0; body woolly; snout oblong.
 Inhabits the higher mountains of *Peru*; gregarious, less than the others, and able to carry only 50—70 pounds: *flesh* not so good: *wool* longer, coarser: *body*, in a wild state, above purple, beneath white: when tamed varying with black, white and tawny.

35. MOSCHUS. Horns 0: fore-teeth lower 8: tusks upper solitary, projecting.

*Musk.**Moschi.*

Moschi-
ferus.A follicle near the navel; tail short. *Thibet M.*

Inhabits Alpine mountains of *Asia*, *Tonquin*, and *Siberia*; lives solitary among the snowy peaks of rocks; gentle, timid, not easily tamed; expert in leaping, running, climbing and swimming; flesh of the young good; about $2\frac{1}{2}$ feet long.

Head handsome, like the roe; *fur* soft, smooth, lax, varying by age and season, chiefly blackish-brown above, beneath hoary, the younger animals marked with streaks or spots; near the *prepuce* is an oval bag, flat on one side, gibbous on the other, with a small orifice; in young animals empty, in the adult containing 1—2 drachms of oily, friable, brown matter which is the true musk; upper *jaw* longer; *scrotum* roly.

Indicus.

Body above tawny, beneath whitish; with spurious hoofs; tail longer. *Indian M.*

Inhabits *India*; larger than the last; *head* like that of the horse; *ears* erect, oblong; *legs* slender.

Pygmaeus. Body above brown-tawny, beneath white; spurious hoofs o. *Guinea M.*

Inhabits *India* and *Java*; $9\frac{1}{2}$ inches long, tail 1; *ears* long; *fore-teeth* 2 middle broad, rest slender; *tusks* small.

2. Body rusty mixed with black; neck and throat with perpendicular stripes.

Meminna. Body above cinereous-yellow, beneath white; sides spotted with white; spurious hoofs o.

Inhabits *Ceylon* and *Java*, 17 inches long; *ears* long; *tail* short.

Javanicus Body above ferruginous, beneath longitudinally white; tail longish, hairy, white beneath and at the tip. *Java M.*

Inhabits *Java*; size of a rabbit.

Nose and *ears* naked; *pits* under the eyes and on the groins o; *neck* grey mixed with brown hairs, beneath white with 2 grey spots almost connected; under the *throat* 2 long, divergent hairs; *crown* longitudinally blackish.

America-
us.

Body tawny-brown; mouth black; throat white.

Brasilian M.

Inhabits *Guinea* and *Brasil*, hardly as large as a roe; timid, active, swift; *hair* soft, short; *head* and *neck* on the upper part brown, under white; *hind-legs* longer than the fore; *ears* 4 inches long; is probably only the fawn of the American roe.

A species is slightly mentioned by Nieuhoff in a cursory manner, without plate or farther information than that it is of the size of a stag, and without horns.

2. Tawny-brown, spotted above with white. P 2 36.

36. CERVUS. *Horns* solid, branched, annual, tip thicker and covered with a downy skin: *fore-teeth* lower 8: *tusks* 0, or upper solitary.

The animals of this tribe live in woods, fight with the horns, stamp with the fore-feet, and are said to have no gall-bladder; flesh tender, wholesome.

Pygargus. Tail 0; horns 3-forked.

Inhabits the woody mountains of *Hircania*, *Russia* and *Siberia*; becomes hoary in winter, and descends into the plains; larger than the roe.

Body deep red; beneath and on the limbs paler; round the nose and on the sides of the lower lip black: tip of the lip and rump white; horns tuberculate at the base; ears within white, hairy.

Alces.

Horns palmate with short beams or 0; throat carunculate.

Moose, Elk.

Inhabits *Europe*, *America* and *Asia* as far as *Japan*; size of a horse; gentle, except when teased by the gad-fly; feeds on twigs and branches of trees, and marsh plants; goes on its hoofs with a shambling gait at the rate of 50 miles a day; skin hard, almost able to resist a musket-ball; flesh good.

Ears long, large, upright, slouching; upper lip broad, square, deeply furrowed, hanging over the mouth; nose broad, nostrils large; neck short, slouching, with an upright mane; tail very short; spurious hoofs large, loose, making a rattling noise in travelling.

2. Horns palmate, beams long; antlers flattened; palm-snags long, one on the inner edge of each palm.

The animal unknown, but the horns frequently dug out of peat-bogs in *Ireland*, larger than those of the elk.

• *Elaphus.* Horns branched, round, recurvate,

Stag.

2. Larger; hair on the neck longer.

3. Legs; body brown,

4. Horns very ample.

5. Size of a common dog; inhabits *China*,

Inhabits *Europe*, *North America* and *Asia*, in herds of many females with their young, under the guidance of one male; swims well; gentle, except during the season of the gad-fly; fights furiously for the females which are seldom horned; gravid 8 months, brings 1, rarely 2, young; drops its horns in February

February or March, and recovers them fully by July; elegant in shape, $3\frac{1}{2}$ feet high.

Body above tawny-brown, beneath whitish, rarely all white; *fawn* spotted with white; the *lachrymal duct* very distinct, branches encreasing in number every year.

Taxidus. Horns branched, round, recurvate; summits palmate.

Rein Deer.

2. Horns entirely round, covered with a hairy skin.

3. Horns straight, with one branch at the base turned back.

Inhabits the Alpine mountains of *America*, *Europe* and *Asia*, southern parts of *Russia* and *Sardinia*; descends in winter into the plains, and is driven back to the mountains in summer by the persecution of marsh insects; feeds on the rein-deer lichen, which in winter it digs out of the snow with its feet; the male casts his horns the end of November, the female not till the fawns, about the middle of May; gravid 33 weeks, brings often twins; lives about 16 years; when castrated loses the horns, not till the 9th year: is trained in Lapland to draw sledges, and supplies the inhabitants with milk, flesh and clothing; when domesticated 3 feet high, wild 4.

Body brown above, growing gradually whiter with age, beneath and *mouth* white; *tail* white; *hair* thick, under the *neck* long; *teats* 6, the 2 hinder spurious.

♦ *Dama.* Horns branched, recurved, compressed; summits palmate.

Fallow Deer.

Inhabits *Europe*, and as far as the northern parts of *Persia*, varying in colour, red brown, spotted, rarely white; gregarious, easily tamed, lives 20 years; female hornless, gravid 8 months, brings 1—3 young; leaps remarkably well, is restrained within bounds by a line drawn across.

Virginia- Horns branched, turned forwards, a little palmate.

ans.

Inhabits *Carolina* and *Virginia*, resembles the last, but taller, tail longer, colour lighter; gregarious, active, easily tamed; feeds in winter on mosses growing upon trees; is troubled with worms in the head and throat; flesh dry: skin valuable.

Axi. Horns branched, round, erect; summits bifid; body spotted with white.

2. Body uniformly bright red; horns 3-forked at the extremity.

3. Horns large, whitish, 3-forked at the tips.

4. Reddish-brown; horns large, thick, rugged, 3-forked.

Inhabits

MAMMALIA. PECORA. Camelopardalis.

Inhabits *India*, and islands of the *Indian Ocean*; easily tamed, of exquisite smell, flesh good when salted: size of *C. dama*: colour pale tawny: tail above tawny, beneath white.

Porcinus. Horns slender, 3-forked; body above brown, beneath cinereous. *Porcine Deer*.

Inhabits *India*; $3\frac{1}{2}$ feet long, $2\frac{1}{2}$ feet high: horns 13 inches long, tail 8: body thickish: feet slender.

2. Body yellowish with white spots.

Inhabits *Cape of Good Hope*; nostrils black: ears white within: tail yellow above, white beneath: legs dark brown.

Mexicanus Horns 3-forked at the tip, turned forward; body tawny.

Mexican Deer.

Inhabits *New Spain*, *Guinea* and *Brazil*; size of the roe.

Horns thick: body when young spotted with white: head large: eyes large, bright: flesh inferior to venison.

•*Capreolus* Horns branched, round, erect, summits bifid; body brown-tawny. *Roe*.

Inhabits the less mountainous woods of *Europe* and *Asia*, in small troops: active, drops its horns in autumn, recovers them in winter: never grows fat: flesh very delicate: gravid 20—22 weeks, brings twins: female without horns: feeds on shoots of fir and beech: $2\frac{1}{2}$ feet high.

Hair soft, in summer smooth, above tawny with grey tips, beneath white, in winter longer, hoary, blackish on the back: face blackish: horns 6—8 inches long: legs slender: tail an inch long.

2. Body white; hoofs and nose black.

Muntjac. Three longitudinal ribs from the horns to the eyes; upper tusk projecting. *Rib-faced Deer*.

Inhabits in small tribes *Java* and *Ceylon*, less than the roe: horns placed on a bony process which is covered with hair, 3-forked, uppermost branch hooked: flesh good.

37. CAMELOPARDALIS. Horns simple, covered with skin, terminated by a tuft of black hair: fore-teeth lower 8, broad, thin, the outer on each side deeply bilobate.

Giraffe.

Girafa. C. *Camelopard.*

Inhabits *Senna*, *Ethiopia* and south of the *Cape of Good Hope*; feeds on leaves and shoots of tall trees, sometimes on grass, with its fore-feet spread wide asunder; gentle, timid, swift, elegant; when about to lie down kneels like the camel.

Body whitish mixed with tawny, and sprinkled with numerous rusty spots; head like that of the horse; ears smallish; neck long, erect, compressed; back convex, maned down to the tail which is round, reaching to the second joint of the hind-legs and a little tufted; horns 6 inches long, erect, blunt; fore-legs much longer than the hind; measures at the shoulders 17, at the rump only 9 feet.

38. ANTILOPE. Horns hollow, persistent, round, twisted spirally or annulate; fore-teeth lower 8: tusks 0. *Antelope.*

These chiefly inhabit hilly countries, climb up rocks, brouze and feed on tender shoots; are very gregarious, active, timid and swift; have gall-bladders and lachrymal pits under the eyes, a fold of skin divided into cells in the groins, brushes of hair on the knees, and beautiful black eyes; the flesh is generally good, and some have a rank or musky smell.

Loxotaxis Horns recurvate, roundish, annulate; body blueish. *Blue A.*

Inhabits the *Cape of Good Hope*, larger than the deer; body beneath white; under the eye and on the feet a white blotch; tail 7 inches, white, a little tufted at the tip; horns 20 inches long, rings 20, tip smooth; hair long.

Loxia. Horns recurvate, wrinkled; body tawnyish; nape of the neck bearded. *Gambian A.*

Inhabits *Africa*, near the *Gambia* and *Senegal*: size of the deer; tufts on the fore-knees long; horns 13 inches, distant in the middle, approaching at the tips which are smooth; rings 8—9.

Capra. Horns erect, round, smooth, tips hooked back. *Chamois.*

Inhabits Alpine mountains of *Europe* in troops; feeds on shrubs, herbs and roots; swift, shy, excellent in sight and smell; emits a soft hiss when discovered; shelters in winter in hollow rocks; gravid 6 months, brings 2—3 young; size of a goat; flesh good.

Fur reddish-brown, shorter in summer; along the back a blackish

ish line; *forehead, crown, throat, and ears* within white; *horns* black, with an orifice in the skin behind each; *upper lip* half divided; *tail* short, blackish beneath.

Dama. Horns hooked forward at the ends; body white; dorsal and eye-stripes tawny. *Swift A.*
Inhabits *Senegal*; 4 feet long, $2\frac{1}{2}$ high, exceedingly swift.
Breast spotted with white; *horns* 8 inches long; *fore-teeth* lower only 6.

Redunca. Horns bent forward at the ends; body tawnyish, with stiff, upright hair. *Red A.*
Inhabits near the river *Senegal*; 4 feet long, nearly $2\frac{1}{2}$ high; *ears* 5 inches, *horns* $5\frac{1}{2}$ long.

Tragocamelus. Horns bent forward; crown maned; back gibbous; tail long, bushy. *Indo-stan A.*
Inhabits *India*; kneels down like the camel, which it resembles in its arched neck; 5 feet high.
Hair short, soft, cinereous; *tail* 22 inches, *horns* 7 long; under the *chest* a hairy dewlap; beneath the *breast* and under the *tail* white; on the *forehead* a black spot.

Picta. Horns bent forward; crown and neck maned; tail long, bushy; legs annulate black and white. *White-footed A.*
Inhabits *India*; 4 feet high.
Body grey, female hornless, darker; *horns* short; *ears* large, striate with black; *mane* black; *female* 3 black, 2 white stripes above the hoofs; *throat* before with a long tuft of black hair.

Saiga. Horns distant lyre-shaped, almost diaphanous; nose cartilagenous, arched. *Scythian A.*
Inhabits *Russia* and *Poland*, as far as the *Altaic Alps*, in open deserts abounding in salt springs; timid, swift, gregarious in autumn, and migrates into southern deserts; bleats like sheep; quick of smell; when feeding or sleeping is always guarded by a centinel; walks backwards while grazing, runs with the head very erect; female hornless, brings usually young; is infested by the gad-fly; of a balsamic odour, sometimes 3-horned, rarely with only one; flesh hardly eatable 4 feet high.
Nostrils open, without the bony bridge; *grinders* each side of neck and *limbs* slender; *fur*, in the summer, short, smooth, on the back and sides tawnyish-grey, darker below the knees

neck, body beneath, and limbs within-side white; beneath the eyes gradually whitening; fur in winter long, coarse; tail 4 inches long, naked below, tufted at the tip.

Gazurafa. Horns lyrate; body tawnyish; tufts on the knees o.

Chinese A.

Inhabits the deserts between *Thibet* and *China*; feeds in flocks on dry hilly pastures upon sweet herbs; runs swiftly, leaps high; is fearful of water and woods; $4\frac{1}{2}$ feet long, $2\frac{1}{2}$ high.

Grinders 6 each jaw; lachrymal duct small; wrinkles on the horns 20; neck protuberant with a large fluctuating larynx; tail short; hollows near the groin large; colour in summer, above rusty-grey, beneath whitish; male with a bag at the orifice of the prepuce, generally empty, sometimes filled with a waxy matter; female hornless.

Subgutta-roja. Horns lyrate; body above ashy-brown, beneath snowy; lateral stripe pale tawny. *Persian A.*

Inhabits *Persia*; gregarious, resembles the roe.

Horns 13 inches long, smooth at the tip; head of the larynx prominent; knees tufted; flesh good.

Pygarga. Horns lyrate; neck blood-red; body hoary-red; lateral stripe deep-red; buttocks white. *White-faced A.*

Inhabits *Africa*; $5\frac{1}{2}$ feet high; leaps prodigiously; flesh good; gregarious; desolating places through which it passes.

Face white; horns 16 inches long, of the male annulate, of the female smooth; tail 7 inches.

Dorcas. Horns lyrate; body above tawny, beneath white; lateral stripe brown. *Barbarian A.*

Inhabits *Africa, Arabia* and *Syria*; half the size of the deer; horns 12 inches, with 13 rings near the base; very gregarious; tail above black, beneath white.

Katella. Horns lyrate, large, compressed; body tawnyish with pale stripes; lateral stripe blackish. *Flat-horned A.*

Inhabits *Africa* and *Persia*; smells musky; horn-wrinkles 14—18; flesh very good; size of a small roe.

Corinna. Horns sublyrate, straightish, slender, smooth; body tawnyish, beneath white; lateral stripe dusky; face with two lines, upper white, lower black. *Corine.*

Inhabits *Africa*; less than the roe; horns slender, 6 inches; belly and thighs within white; ears large; a dark line dividing the colours of the body.

Vol. I. — Q

Bubalis.

- Bubalis.* Horns lyrate, thick, twisted, wrinkled, straight at the tip; head and tail elongated. *Cervine A.*
 Inhabits *Africa* and *Arabia*; gregarious; flesh tender, dry; 4 feet high.
 Head resembling an ox; horns black, 20 inches long; tail bushy, a foot long, resembling an asses; body reddish-brown, beneath white.
- Koba.* Horns lyrate, thick, annulate; tips smooth, sharp, bent back. *Senegal A.*
 Inhabits *Senegal*; 7 feet long.
 Ears large, 7 inches long, horns 17, rings 15, prominent; body pale reddish-brown; stripe down the neck black; rump dirty white; on each knee and above each fetlock a dusky spot; tail a foot long, covered with long blackish hairs.
- Gnu.* Horns bent forwards at the base, backwards in the middle; neck maned; tail dirty-white.
 Inhabits the plains of *Africa* behind the *Cape of Good Hope*; feeds in large troops; fierce, fights with its horns; resembling in its head an ox, body and tail a horse, thighs a stag, fur and lachrymal duct the antelope; flesh good; $3\frac{1}{2}$ feet high, $6\frac{1}{2}$ long.
 Body rusty-brown; breast black; mane cinereous; over the nose a tuft of long, black, reflected hairs; on the chin a hanging tuft of white hairs; feet with one spurious hoof.
- Oryx.* Horns straight, tapering, distinctly annulate; body grey; dorsal stripe blackish, with the hinder hair reversed. *Egyptian A.*
 Inhabits the plains of *Egypt*, *Arabia* and *India*; size of a deer; horns 3 feet long, tail 1, black at the tip; face white, with a black spot at the base of the horns, one on the middle of the face, and one each side reaching from the eye to the throat; body beneath white; tail $2\frac{1}{2}$ feet long, hairy.
- Oreotragus* Horns straight, tapering, a little wrinkled at the base; head tawny; body greenish-yellow, beneath white-ash; tail very short.
 Inhabits *Africa*.
- Gazella.* Horns tapering, a little bent inwards, wrinkled. *Gazelle.*
 Inhabits *India*, *Persia*, *Egypt* and *Ethiopia*, in herds; runs swiftly up hill; easily tamed; in the abomasus is found the real bezoar of a greenish-blue colour, and when recent very aromatic; body red above, white beneath. *Leucoryx.*

Leucoryx. Horns tapering, straight, convexly annulate; body milk-white.

Inhabits near *Baffora*; size of a small cow; face in the middle and limbs reddish; nose like a cow's; horns long, acute, black, slender; tail a little tufted.

Ovis. Horns tapering, straight, spirally carinate; body grey.

Indian A.

Inhabits *India*, *Congo* and the *Cape of Good Hope*; gregarious; grows very fat; flesh good; horns made into tobacco pipes by the natives; 5—8 feet high; horns 2 feet, dark brown.

Body blueish-grey; mane on the neck and back brown; head reddish; tail a little bushy, black at the tip; lachrymal groove 0.

Scripta. Horns tapering, straight, twisted; body marked crosswise with white stripes.

Harnessed A.

Inhabits in herds the fields and woods near the river *Senegal*; body chestnut; beneath the eyes a white spot; toes spotted with white; $4\frac{1}{2}$ feet long; horns 9 inches long, tail 10.

Grævia. Horns conic, compressed, straight, furrowed and wrinkled at the base; pits under the eyes black.

Guinea A.

Inhabits *Guinea*; 18 inches high: horns 3 long.

Colour various, cinereous yellowish or brown, beneath white; tail short, black above, white beneath; between the horns a small erect pointed tuft of black hair; down the middle of the face a black stripe; ears large, with 3 longitudinal depressions on the outside: fore-legs with a black band as far as above the knees: instead of spurious hoofs a slight excrescence.

Pygæa. Horns conic, short, convex, wrinkled at the base. *Royal A.*

Inhabits *Guinea*, and hottest parts of *Africa*; very active, leaps 12 feet high, gentle, 9 inches high: body reddish-brown: horns black, shining like jet, female 0: legs hardly larger than goose quills.

Blanca. Horns a little spirally twisted, carinate, sharp, smooth at the tips; body above brown, behind spotted with white, beneath chiefly white.

Wood A.

Inhabits woods near the *Cape of Good Hope*; lives in pairs; 3 feet high: body marked in various places with white spots, reddish-brown: horns black, 10—13 inches long, females 0: neck and back a little maned: flesh good.

Strepsice- Horns spirally carinate, wrinkled; body with dorsal and
ros. transverse white stripes. *Striped A.*
 Inhabits the *Cape of Good Hope*; very active; 4 feet high.
Body slender, reddish-grey, beneath grey; *neck* maned; *breast*
 crested; *face* blackish, with 2 white lines; *horns* pale brown,
 compressed, 3 feet 9 inches long; *tail* black above, white
 beneath, tip black, 2 feet long.

Cervicapra Horns spiral, round, annulate; body brown clouded with
 reddish and dusky. *Common A.*
 Inhabits *Africa* and *India*; less than the deer.
Head blackish; *orbits* white; *mouth* brown; *horns* erect, black,
 smooth, sharp at the tips, 14 inches long, entirely annulate
 except the tips; *female* hornless, gravid 9 months, brings
 1 young.

39. CAPRA. Horns hollow, compressed, rough, erect, turned back: fore-teeth lower 8: tusks 0: chin bearded.

The animals of this Genus are fond of dry rocky situations, and
 feed on aromatic vegetables; have hair instead of wool; exhale
 a rank odour; are shy and timid; fight erect on the hind-legs,
 and strike with the head turned on one side. It is a singular
 local peculiarity that in *Angora* only, the animals of the *Capra*,
Ovis and *Lepus* tribe have long, soft, silky hair.

- *Ægagrus* Horns carinate, arched back; throat bearded. *Goat.*
 - 2. Horns carinate, arched, with a curvature outwards at the
 ends. *Domestic G*
 - 3. Hair long, soft, silky. *Angora G*
 - 4. Horns reclined; ears pendulous; chin bearded. *Syrian G*
 - 5. Horns short, depressed, reclining on the skull. *African G*
 - 6. Horns erect, turned forwards at the ends. *Whidaw G*
 - 7. Horns short, turned forwards at the tips, annulate at the
 sides. *Capricorn*
- Inhabits many mountainous parts of *Europe*, *Africa*, *Persia* and
India; active like deer, and resembles them in habits; horns
 of the male dark brown-ash, of the female either small or none;
neck and limbs robust; *head* thick; *fur*, in a wild state, grey
 or ashy-red with a black spiral line; *tail* short, black; *fleece*
 rough; in the stomach is found bezoar; 2) domesticated
 through all *Europe*, feeds on branches of shrubs, lichens, heath
 lock, is seldom destitute of horns; treacherous, petulant
 active and lascivious; gravid 5 months, brings 1—2, rarely
 more; lives 10—12 years. *Ibu*

*Ibex.***Horns** above knotty, reclined on the back; throat bearded.Inhabits inaccessible precipices of *Kamtschatka*, *Arabia* and *Enrope*; gregarious, active, wild; larger than the last; teats 2; brings 1—2 kids.*Head* short, snout thick, compressed; *eyes* small; *horns* vast, sometimes 3 feet long, rounded within, wrinkled, more arched than the preceding, blackish-grey; *limbs* slender; tail short, naked beneath, black above and at the tip; *hair* long, tawny or hoary, when young dirty-grey; dorsal line black, with a large deep black spot above and beneath the fore-knees which are elsewhere white; *skin* tender.*Caucasica.* **Horns** turned backwards and outwards, verging inwards at the tips, slightly triangular, knotty behind.*Caucasian Goat.*Inhabits the bare rocky summits of mount *Caucasus*, near the rise of the *Terek* and *Cuban* rivers; size of the common goat, but broader and shorter.*Horns* dark grey, of the male darker; *body* above brownish-grey with a dark spiral line, beneath whitish; extremities black; *hair* cinereous at the base, harsh, stiff, intermixed with grey wool.40. **OVIS.** *Horns* hollow, wrinkled, turned backwards and outwards into a circular or spiral form: *fore-teeth* lower 8: *tusks* 0.

These are gentle, harmless and useful, supplying food and raiment; prefer open plains; less active; fight by butting each other with the head reclined; threaten by stamping the ground with the feet; drink little; females gravid 5 months, bring 1—2, rarely 3 young.

* *Aries.***Horns** compressed, lunate.*Sheep.*1. **Horns** 0; tail and scrotum hanging as low as the knees.*Hornless S.*2. **Horned**; tail short; wool short, coarse.*Black-faced S.*3. **Horns** spiral, lengthened outwards; wool fine, plentiful.*Spanish S.*4. **Horns** more than two.*Many horned S.*5. **Hair** instead of wool, short.*African S.*6. **Ears** pendulous; dewlaps lax, hairy; hind part of the head prominent.*Guinea S.*7. **Tail**

7. Tail long, very broad. *Broad-tailed S.*
8. Ears large, pendulous; large fatty cushions on the hips; tail o. *Fat-rumped S.*
9. Ears large, pendulous; cushions on the hips less; tail long, flat. *Bucharian S.*
10. Tail very long, woolly. *Long-tailed S.*
11. Ears large, pendulous; tail large, broad. *Cape S.*
12. Beard long, divided, hanging from the lower parts of the cheeks and upper jaw. *Bearded S.*
13. Beard long, on the fore-part of the breast; neck with a short mane. *Morvant.*

Inhabits the *whole globe*, of all quadrupeds the most stupid and helpless; lives about 14 years; changes its teeth with its age; bleats; feeds on short tender grass, chiefly sheep's fescue; is infested by worms, giddinels, consumption, dropsy, scab and an eruptive disorder like the small pox; one ram suffices for 50 ewes; 1) common in *England*; 2) in all *Europe*, particularly the northern parts; *wool* harsher, shorter, crisper; *horns* turned backwards, spirally twisted, angulate, flat within; *eyes* blueish, with an oblong pupil; *nose* arched; *tail* round, short; *colour* usually white, sometimes black or spotted; 3) peculiar to *Spain*; 4) found in *Iceland* and northern countries, with 2—6 horns, the intermediate ones erect; *tail* short; *wool* harsh, short; 6) inhabits southern deserts of *Africa* and *India*; horns small, turned back and down towards the eyes; *tail* reaching to the knees; 7) found in *Asia* and all the east; *tail* consisting of an unwieldy lump of fat 30—50 pounds weight; 8, 9) common among the *Tartars*, *Persia*, *Syria*; horns curled like the common sheep; *ears* pendulous; dewlaps on the chest; *colour* various; 12) in *Barbary*; horns close at the base; bending back, diverging and turning outwards; *body* pale rusty; 13) *beard* coarse, long, mixed red and grey; *mane* extending to the middle of the back; *body* bright yellow; *legs* deep red; *tail* yellow and white, with long coarse hairs.

Ammon. Horns arched, semicircular, above wrinkled, flattish beneath; dewlaps lax, hairy. *Siberian S.*

2. Body brown tinged with tawny; a white mark each side pointing to the belly.

Inhabits in flocks, rocky dry deserts of *Asia*, *Barbary* and *Corfica*; size of a small deer; active, swift, wild; flesh and fat delicious.

Colour in summer brownish-ash mixed with grey; beneath whitish-grey; *tail* short, white, brownish at the tip; *hair* long in winter, shed in the spring; *ears* erect, acute; *hind-feet* longer than the fore.

Pudu.

Padu. Horns round, smooth, divergent.

Inhabits the Cordeleras in *South America*, gentle, descends in winter into the vallies; size of a half-grown kid; resembles a goat, but the horns are turned round outwards; beard o; female no horns; colour dusky.

Crete. Horns erect, carinate, spirally twisted. *Cretan Sheep.*
Inhabits the *Grecian Islands*, *Hungary* and *Austria*; horns twisted like the worm of a screw, very divergent at the ends; wool long, hairy.

41. BOS. Horns hollow, bent outwards and forwards, semicircular, smooth: fore-teeth lower 8: tusks o.

These fight by pushing with the horns; delight in low rich pastures, are used for draught and burthen; and valuable for their flesh, milk, hides, and many domestic purposes.

* *Taurus.* Horns round, turned outwards; dewlaps lax. *Ox.*

1. Horns short, thick, reflected back; forehead curly. *Wild Ox.*

b. Horns bent back; mane very long. *Bonafus.*

c. Horns bent forwards; back gibbous; mane long. *Bison.*

2. Horns round, smooth, distant at the base, bent forwards.

European Ox.

b. Horns short, bending back close to the neck; body red; a fatty bunch on the shoulder. *Indian Ox.*

c. Horns nearly erect, turned forwards; a fatty bunch on the shoulders. *Zebu.*

d. Diminutive; size of a large dog. *Surat Ox.*

e. Horns pendulous, adhering only to the skin; back with a bunch. *Abyssinian Ox.*

f. Ears pendulous; back gibbous; size large; body white. *Madagascar Ox.*

g. Body white; ears black. *Tinian Ox.*

h. Body snowy; legs slender; horns elegant; hoofs black; very swift. *African Ox.*

Inhabits various parts of the world, and is domesticated almost every where, for the purposes of agriculture, or for its meat and skin; is sometimes found in *England* and *Scotland* of a small size without horns; obstinate, vicious, attacking with the horns; tearing up the ground and stamping with the feet when enraged; is subject to a variolous disease communicable to mankind and preventing future infection from the small

small pox; is infested by gad-flies, lice and other insects; is poisoned by yew, hemlock, aconite, and anemone; lives 14—16 years; gravid 9 months, brings 1, rarely 2, young.

Arnee. Horns long, erect, semilunar, wrinkled; tips smooth, round, approaching.

Inhabits *India*, of vast size; 8 feet high; black.

America-nus. Horns round, distant, pointing outwards; mane long, woolly; back gibbous. *American Ox.*

Inhabits reedy marshes of *New Spain*, large, fierce and dangerous.

Horns short, black, distant at the base; gibbosity large, fleshy; neck thick; hind-parts slender, weak; tail a foot long, tufted; hair of the head and bunch long, woolly, waving, rusty-brown.

Moschatus Horns approaching at the base, broad, bent inward and backwards; tips bent outwards, pointed. *Musk Ox.*

Inhabits *North America*, in herds among rocky mountains; runs and climbs well.

Hair long, silky, black; mane dusky tinged with reddish; under the hair a fine ashy fleece; shoulder gibbous; ears erect, pointed, dilated in the middle; flesh tastes musky.

Grunniens Horns round, curved outwards; hair long, pendent; tail covered with a silky mane. *Grunting Ox.*

Inhabits *Thibet*, and is cultivated in *Siberia*, *China*, *Persia* and *India*; large, fierce, impatient of heat; fearful of anything red; shakes the body when irritated; voice a kind of grunting; is subject to many varieties from domestication; sometimes hornless.

Head short; nose broad; lips thick, pendulous; ears large, pendulous, hairy; horns short, slender, distant, with very sharp points and a tuft of hair between; hair on the forehead radiate; mane white, extending to the tail; body black; hoofs broad; tail broad, 6 feet long, covered with long, silky, silvery hairs; in the stomach is sometimes found a kind of bezoar; flesh rank, except when very young.

Bubalus. Horns resupinate, turned inwards, flat on the foreside.

Buffalo.

2. Horns small, taper, pointed, compressed sideways resupinate; rump and thighs naked.

3. Size of a sheep; fierce.

3. Back gibbous; legs on the lower half white.

Inhabit

Inhabits *Asia*, domesticated in *Africa*, *India* and *Italy*; size of a cow, 2) smaller; gravid 12 months.

Skin tough; *hair* black or dusky, scanty; *head* small, with curly hair on the forehead; *horns* black, thick; *dewlap* 0; *nose* broad: *eyes* white: *tail* short, slender.

Cape.

Horns broad, approaching at the base, and then divaricating backwards, tips turned upwards and inwards; mane short. *Cape Ox.*

Inhabits *Africa* and *Guinea*; very large, strong and fierce; lives in woods, wallows in mire, dangerous to travellers, tramples men, horses and oxen under its feet: so swift that in running up hill it is not easily overtaken by a horse: $5\frac{1}{2}$ feet high.

Body black or dark ash: *face* covered with long harsh hair: *horns* thick, black, laid flat on the head: *skin* tough: *ears* pendulous: *tail* short, tufted, black at the tip: *flesh* coarse, of the flavor of venison.

Barbatus.

Horns short; chin and breast bearded.

Bani.

Inhabits north of the *Cape*: larger than an ox: grey.

Pumilus.

Horns nearly erect, close at the base, then divergent and approaching at the tips. *Dwarf Ox.*

Inhabits *Africa*; less than a stag, well made: *shoulders* a little elevated: *hair* tawny-brown, shining: *tail* with long, coarse hair at the end.

ORDER VI. BELLUÆ.

Fore-teeth obtuse, truncate; feet hoofed.

42. EQUUS. *Fore-teeth* upper 6, erect, parallel; lower 6, more prominent: *tusks* solitary, included, remote: *teats* 2 inguinal.

The animals of this tribe are of great value to mankind, and are used for draught, burthen, and the saddle: fight by biting, and kicking with the hind-feet: in the males the teats are situated on the glans penis: and they have the singular property of breathing only through the nostrils and not through the mouth.

* *Caballus*. Hoofs solid; mane and tail with long, flowing hair. *Horse*.

1. Wild horse.

2. Domestic horse.

Is cultivated with care in most parts of the earth; found in a natural state in the deserts of *Great Tartary*; sometimes wild in *Africa*; timid, swift, vigilant; moves in flocks, having a leader before, with its ears thrown forwards, and a centinel behind, with its ears bent back, to guard against surprise both ways; varies much in size and colour, feeds on grain and herbage; generous, proud, spirited; drives away flies and insects with its tail; carefully guards its hind part; calls after its companion by neighing, and scratches its shoulder with its teeth; rolls itself when hot; gall-bladder 0; does not vomit or eructate; its dung heats and smokes; changes its fore-teeth in the 2nd, 3rd and 4th years, acquires tusks in the 5th; gravid 290 days.

Memionus. Hoofs solid; colour uniform, cross on the back 0; tail hairy at the tip only. *Wild Mule*.

Inhabits deserts of *Arabia* and *China*, in grassy saline plains, but avoids woods and snowy mountains; timid, swift, not tameable; hearing and smell acute; neighing more sonorous than the horse; in size and habits resembles a mule, ears and tail a zebra, hoofs and body an ass, limbs a horse; 5 feet long.

Head large, narrowing towards the nose; *neck* slender; *hair* soft; *face* tawny; *nose* white at the end; *body* above brownish, beneath and on the buttocks white; along the *back* a blackish list; tuft on the *tail* black; *teeth* 34.

* *Asinus*.

Asinus. Hoofs solid; tail bristly at the extremity; a black cross on the shoulder of the male. *Ass.*

1. Mane woolly, dusky; ears long, erect; forehead much arched. *Wild Ass.*

2. Mane short; ears long, slouching; forehead flattish. *Domestic Ass.*

3. Hybrid produce of a male ass and a mare. *Mule.*

4. Hybrid produce of horse and a female ass. *Hinny.*

Inhabits the mountainous deserts of *Tartary*, from whence it annually migrates to *India* and *Persia*; found also in various parts of *Syria*, *Arabia* and *Africa*; is domesticated almost every where; loves warmth; patient of hunger and stripes; feeds on thorns and thistles; is slothful, slow, stupid and lascivious.

Ears large, flaccid; mane short; body cinereous, with a black cross upon the shoulders; 2) swifter and more active, hunts wild animals, acute in sight and hearing; loves salt and bitter herbs; flesh eaten by the *Kirgisees*; skin growing on the rump made into chagrin; lives 30 years; gravid 290 days; 3) much cultivated in *Spain*, where its size is nearly that of a horse; 4) much less, of a redder colour, with the ears of a horse, mane and tail of an ass.

Zebra. Hoofs solid; body pale buff, with perpendicular brown bands; the limbs with cross stripes.

Inhabits plains of southern *Africa*, in troops; beautiful, malignant, swift, wild; size of a mule: mane short, erect, striate; ears erect; tail like that of an ass.

Quagga. Hoofs solid; body above chesnut, with perpendicular brown stripes; belly, legs and thighs white without stripes; sides spotted.

Inhabits south of *Africa*, in separate tribes; thicker, stouter and more tameable than the zebra.

Huemul. Hoofs cloven. *Chilese Horse.*

Inhabits the rocky mountains of the *Cordelleras* in *South America*; vicious, wild, swift; neighs like a horse; resembles in size and colour the ass, but wants the cross; ears small, erect.

43. HIPPOPOTAMUS. *Fore-teeth* each jaw 4, upper in pairs, remote; lower prominent; intermediate ones longer: *tusks* solitary, lower very long, obliquely truncate, recurvate: *feet* hoofed at the margin.

Amphibius Feet 4-lobed.

River Horse.

Inhabits rivers of *Africa*, and lakes of *Abyssinia* and *Ethiopia*; gregarious, wandering a few miles from the water; feeds by night on vegetables, roots of trees, never on fish; lays waste whole plantations of sugar-cane, rice and other grain; when angered or wounded will attack boats and men with much fury; walks slowly and heavily; swims dexterously and walks under water, but cannot remain long without rising to the surface for breath; sleeps in reedy places; voice tremendous, between the lowing of the ox and the roaring of the elephant; female brings 1 young, which she suckles in the water; nearly as large as an elephant.

Head large; *mouth* very wide; *skin* thick, dark, almost naked; *teeth* very white, harder than ivory, and not growing yellow with age; *tusks* 20—26 inches long, weighing 6 or 7 pounds; *grinders* 6 above, 8 below, each side; *ears* small, acute, ciliate with short fine hairs; *eyes* and *nostrils* large; *lips* tufted with hair; *tail* about a foot long, naked; *legs* short, thick; *lobes* of the feet not connected; *flesh* sometimes eaten, fat used in pulmonary diseases.

44. TAPIR. *Fore-teeth* each jaw 10: *tusks* 0: *hoofs* on the fore-feet 4, hind-feet 3.

Americanus.

Shout long, extensile, flexible.

Inhabits woods and rivers of *South America*; gregarious, sleeps by day in the thickest woods near the banks of waters, feeds by night on grass, sugar-cane and fruit; swims well, dives and walks under water; is gentle, fearful, salacious and easily tamed; size of a small cow.

Skin thick, brown, covered with short hair, in the young spotted; *ears* roundish, large, erect; *eyes* small; *grinders* 5 each jaw; *snout* furrowed at the sides, the upper projecting much beyond the lower; *neck* short, thick, a little maned on the upper part; *back* arched; *feet* short; *hoofs* black, hollow; *tail* short, naked; *voice* a kind of hiss.

45. SUS.

45. SUS. *Fore-teeth* upper 4, convergent; lower (usually) 6, prominent: *tusks* upper 2, shorter; lower 2, standing out: *snout* prominent, truncate, moveable: *feet* (mostly) cloven.

These dig in the earth with the snout, which is furnished at the end with a strong, roundish cartilage; feed indifferently upon almost every thing, even the most filthy; wallow in the mire, and are extremely prolific.

- **Scrofa*. Back bristly on the fore-part; tail hairy, *Hog.*
 1. Tail hairy; ears short, roundish. *Wild Hog.*
 2. Tail hairy; ears oblong, acute. *Common Hog.*
 a. Hoofs undivided.
 b. Back nakedish; belly reaching almost to the ground.
 Inhabits south of *Europe*, *Persia* and *India*; 2) domesticated every where, except in very cold climates: b) *China*; lazy, stupid and gluttonous, devouring even its own offspring; smells rank: restless before high winds: basks in the sun: wallows in mire: attacks with foaming mouth, and makes a horrid grunting: devours serpents without injury: grows very fat: lives 25—30 years: is infested with lice, scab and scrophula: killed by eating pepper: teats numerous: gravid 4 months, brings 6—20 young.
 1) Dark hoary, the young with several longitudinal streaks alternately yellowish and brown: lard o: snout and tusks longer: 2) larger in temperate climates, varying in colour: a) found in *England*, and various parts of the world: b) inhabits *China* and *South-sea Islands*, and domesticated in *Europe*: smaller than others: usually mixed black and white: legs and tail shorter: more cleanly: flesh whiter.

- Porcus*. Back bristly on the hind-parts; tail reaching to the ground; navel cistiferous. *Guinea Hog.*
 2. Ears erect, a little pointed; tail reaching nearly to the ground.
 Inhabits *Guinea*; 2) *Siam*; less than the hog: tail naked: ears long, pointed: body red, hair longer on the head and buttocks.

- Tajassu*. Back with a glandular orifice; tail o. *Mexican Hog.*
 Inhabits in droves the warm parts of *America*, among woods and mountains: does not wallow nor become fat like the common hog:

hog: feeds on fruit, roots and reptiles: flesh good, if the fetid gland on the back be cut out immediately after death: 3 feet long.

Tusks hardly conspicuous when the mouth is shut; *ears* short, erect, pointed; *eyes* sunk; *neck* short, thick; *bristles* nearly as large as those of the hedge-hog, longest on the neck and back, hoary-black annulate with white; from the shoulders to the breast a *collar* of white.

Africanus Fore-teeth 2 in the upper jaw.

Cape Hog.

Inhabits from *Cape Verd* to the *Cape of Good Hope*.

Body covered with long fine bristles; *tusks* broad, hard as ivory, upper thick, obliquely truncate; *grinders* 6 each jaw, each side, the anterior largest; *ears* narrow, erect, pointed, bearded at the tip with long bristles; *tail* slender, tufted, reaching to the first joint of the hind-leg.

Ethiopicus Fore-teeth 0; under the eyes a soft wrinkled pouch.

Ethiopian Hog.

Inhabits *Madagascar*, and hot parts of *Africa*; hideous in appearance; fierce, swift, and more cunning than the common hog; burrows under ground with expedition; $4\frac{1}{2}$ feet long.

Body thick, broad, nakedish, with bunches of blackish-brown bristles, longer on the back, longest on the nape; *head* large; *snout* truncate, almost horny, bent downwards; instead of fore-teeth, convex, smooth, hard gums; *tusks* beneath small, above larger, bent upwards; *grinders* 6 each jaw; *ears* a little pointed; *eyes* small, approximate, near the the top of the head; *skin* lax, black under the eyes, from which hangs down a large, broad, flat lobe; *tail* naked.

Babyrussa. Two crooked tusks piercing through the upper part of the face.

Inhabits islands of the *Indian Ocean*; gregarious, feeds on herbs and leaves, of quick scent; swims and dives well, grunts: size of a stag: flesh good.

Body slender, grey-brown: *hair* nearly woolly: *head* oblong, narrow: *eyes* minute: *ears* small, erect, acute: *grinders* 5 each jaw: *tusks* perforating the upper jaw, recurvate like horns: *legs* long, slender: *tail* long, twisted, tufted at the tip.

ORDER

ORDER VII. CETE.

Spiracles placed on the fore-part of the skull : feet 0 : pectoral fins without nails : tail horizontal.

46. **MONODON.** *Teeth* 2 in the upper jaw, extending straight forwards, long, spiral: *spiracle* on the fore and upper part of the head.

Monoceros. M.

Narval.

Inhabits northern parts of the *Atlantic*; swims rapidly: 18—40 feet long, 12 broad.

Skin white, spotted on the back with black: *dorsal fin* 0, *pectoral* 2, small: *head* small: *eyes* very minute: *teeth*, what are commonly exhibited as the unicorn's horns, the young animal has 2, sometimes smooth, perforating the upper lip, the old animal generally only one.

47. **BALÆNA.** *Teeth* 0, instead of which are horny laminæ in the upper jaw: *spiracle* with a double opening on the top of the head.

* *Mystic- Nostriis flexuous, on the fore-part of the head; dorsal*
ius. fin 0. Common Whale;

2. Body black with a whitish gloss.

3. *Spiracle* 0, larger.

Inhabits seas towards the *Arctic Pole*; is timid, and swims with vast velocity: feeds chiefly on crabs and medusæ: is sought after for the sake of its blubber, and the horny laminæ in the upper jaw, usually called whale-bone: teats 2, proportionally small: gravid 9—10 months, brings 1 rarely 2 young: measures 50—100 feet long.

Head about a third part of the body, flattish above, with a tubercle in which is the spiracle: *mouth* long, curved like the letter *s*, lower jaw very broad in the middle: *tongue* soft, white, adhering to the lower jaw, spotted with black at the sides: *eyes* size of an ox's, lateral, remote, above the ears: *skin* an inch thick: *tail* slightly bifid, from the middle of which a sharpish angular ridge runs up the middle of the back.

* *Physalus.*

- * *Physeter* Spiracles double on the middle of the fore-part of the head ;
at the extremity of the back a soft fin. *Fin-fish.*
Inhabits the *American* and *European* seas, equalling the last in
length, but much more slender and less fat: *mouth* larger,
whalebone shorter, blue: ejects water from the spiracles with
greater force: *body* brown, shining, beneath white: *dorsal*
fin straight, acute, 3—4 feet long.
- * *Boops*: Spiracles double on the snout; a horny protuberance at the
extremity of the back. *Pike-headed Whale.*
Inhabits south and north *Océan*, 46 feet long: very smooth,
black: belly white, longitudinally wrinkled.
Head oblong: *snout* sharpish: *tongue* 5 feet long, like that of
an ox: *eyes* placed near the angles of the mouth.
- Gibbosa*. Back gibbous; dorsal fin o. *Hump Whale.*
1. Bunch on the back one.
2. Bunches on the back 6.
Inhabits coasts of *New England*; gibbosity large as a man's head.
- * *Musculus* Spiracles double on the forehead; under jaw very broad.
Broad-nosed Whale.
Inhabits coasts of *Scotland*; 78 feet long.
Body above black, beneath white: lower jaw semicircular, up-
per sharp: *mouth* very large: horny *laminae* black, very
short: *spiracle* pyramidal, divided by a partition: *belly*
wrinkled: *dorsal fin* fat.
- * *Rostrata*. Nose elongated to a peak; dorsal fin fat. *Beaked Whale.*
Inhabits seas of *Norway*, rarely *England*; 25 feet long, very
black, resembles *B. boops*: swims rapidly: lower jaw thicker
than the upper, in which is one tooth each side.

48. PHYSETER. *Teeth* in the lower jaw, none in the upper. *Cachalot*

- * *Catodon*. Dorsal fin o; fistula on the snout. *Lesser C*
Inhabits the *Northern Sea*, rarely the *Scottish* coast: 24 feet
long: *head* round: *mouth* small.
- * *Macrocephalus*. Dorsal fin o; fistula on the neck. *Blunt-headed C*
1. Black; back gibbous.
2. Blackish-ash; back gibbous.
3. Whitish; back smooth. *Inhabi*

Inhabits 1) *European seas*, 2) *coasts of New England*, 3) *Davis's Straits*; 1) 60 feet long, white beneath; *teeth* in the lower jaw 46, in a double row, received in sockets in the upper; *teats* retractile; from its head is procured the *spermaceti*, and *ambergris* from the intestines of such as are sick; 2) 60—70 feet long; *head* large; *eyes* small; *teeth* many; 3) 15—16 feet long, yellowish-white; *teeth* a little incurvate, compressed, rounded at the tips.

**Harps.* Dorsal fin long; upper jaw longest. *Sharp-nosed C.*

1. Teeth sharp, hooked.

2. Teeth sharp, straight.

Inhabits the *Northern Ocean*; 1) 70 feet long, dark tawny; *teeth* 42, round, a little compressed; *dorsal fin* long, sharp; 2) 80—100 feet long, blackish above, whitish beneath; a high bunch on the upper part of the back; *fin* near the tail; *eyes* bright, yellowish; *tongue* small, acute; *teeth* set in the jaw like a saw.

**Tarps.* Dorsal fin very long; teeth flat at the top. *High-finned C.*

Inhabits the *Northern Ocean*; 100 feet long; *dorsal fin* very long, sharp, erect, resembling the mast of a vessel; *tongue* sharp,

49. DELPHINUS. *Teeth* in each jaw.

**Pinnas.* Body subconic; back broad; snout bluntish. *Porpoise.*

Inhabits the *European and Baltic Oceans*; swarms in narrow seas, tumbling over and darting in the water; 5—8 feet long.

Body above blueish-black, beneath white; *head* obtuse; *eyes* small, behind them the entrance to the ear, between them a semilunar fistula; *teeth* small, acute, in each jaw 46; *orifice* of the penis near the navel linear; *anus* a little 2-lobed, between that and the tail.

**Delphis.* Body oblong, roundish; snout narrow, sharp. *Dolphin.*

Inhabits *European and Pacific Seas*; swims with velocity, preys on fish, adheres to whales as they leap out of the water, is of a crooked form only when leaping; 9—10 feet long; slenderer than the last.

Snout long, sharp, with a broad transverse projection of the skin on its upper part; *teeth* subulate, 21 above, 19 below, locking into each other; *mouth* extensive, reaching almost to the thorax; *kidney* conglomerate.

- **Orcas*. Snout turned up; teeth broad, ferrate. *Grampus*.
 *2. Snout a little truncate; teeth pointed; dorsal fin long, bony.
Sword Grampus.

Inhabits *European and Atlantic Seas*; 24 feet long, 12 broad; attacks and fastens on whales, often destroys them; fights likewise with seals, often pushing them from rocks with its long dorsal fin.

Body black above, white beneath; lower *jaw* much longer than the upper; *teeth* 40, obtuse; *eyes* small; *spiracle* 2-celled; *fin* broader at the base, resembling a scymetar.

- Leucas*. Snout conic, obtuse, inclined upwards; dorsal fin 0.

Inhabits the *Arctic Pole*; seldom ascends rivers, gregarious; smooth, slippery, white, when young dusky; 18 feet long.

Head oblong, small; *eyes* minute, round, prominent; *spiracle* on the forehead divided by a partition; *teeth* each jaw, each side 9, short, bluntish; *pectoral fins* soft, with 5 bones; *tail* cartilagenous, 2-lobed; *teats* 2, filled with white milk.

CLASS

CLASS II. AVES. BIRDS.

THIS beautiful and cheerful portion of created nature consists of animals having a *body* covered with feathers and down; *jaws* protracted and naked; *wings* 2, formed for flight, and 2 *feet*. They are aerial, vocal, swift and light, and destitute of external ears, lips, teeth, scrotum, womb, bladder, epiglottis, corpus callosum and its arch, and diaphragm.

The *feathers* are disposed over each other in the form of a quincunx, intermixed with down, distinct from the quill and tail-feathers, convex above, concave beneath, narrower on the outer side, lax at the fore-end, hollow and horny at the base, with a central pith, and furnished on each side the elongated shaft with parallel, approximate, distinct, flat laminae composing the vane; they vary in colour according to age, sex, season or climate, except the quill and tail-feathers, which are more constant and chiefly characterize the species.

The *eggs* are various in number, size and colour, but always covered with a calcareous shell, deposited in an artificial nest, and hatched by the genial warmth of the parent.

The *body* is oval, terminated by a heart-shaped rump, and furnished all over with aerial receptacles communicating with the lungs or throat, necessary for flight or song, and which may be filled or emptied at pleasure; the *rump* has 2 glands, secreting an unctuous fluid, which is pressed out by the bill to anoint the discomposed parts of the feathers; *bill* horny, extending from the head, either hooked at the end for tearing the prey, or slender for searching in the mire, or flat and broad for gobling, and is used for building nests, feeding the young, climbing, or as an instrument of offence and defence; *eyes* lateral, furnished with orbits and a nictitant membrane; *ears* truncate, without auricles; *wings* compressed, consisting of moveable joints, and covered with quills and feathers; *legs* placed usually near the center of gravity, with toes and claws of various shapes; *tail* serving as the rudder or director of the body.

They are mostly monogamous, or live in single pairs, and migrate into milder climates upon defect of food or warmth, and a few become torpid in winter.

The *generic* characters are taken from the bill, tongue, nostrils, etc, caruncles and other naked parts.

They are divided into 6 orders.

I. ACCIPITRES. *Bill* somewhat hooked downwards, the upper mandible dilated near the point, or armed with a tooth; *nostrils* open; *legs* short, strong; *feet* formed for perching, having 3 toes forwards and one backwards; toes warty under the joints; *claws* hooked and sharp-pointed; *body* muscular; *flesh* tough and not fit to be eaten; *food* the carcases of other animals, which they seize and tear; *nest* in high places; *eggs* about 4; *female* larger than the male. They live in pairs.

II. PICÆ. *Bill* sharp-edged, convex above; *legs* short, strong; *feet* formed for walking, perching or climbing; *body* toughish, impure; *food* various filthy substances; *nest* in trees; the *male* feeds the *female* while she is sitting. They live in pairs.

III. ANSERES. *Bill* smooth, covered with a soft skin and broader at the point; *feet* formed for swimming; toes palmate, connected by a membrane; *thanks* short, compressed; *body* fat, downy; *flesh* mostly tough; *food* fish, frogs, aquatic plants, worms, &c.; *nest* mostly on the ground; the *mother* takes but little care in providing for the young. They are frequently polygamous.

IV. GRALLÆ. *Bill* subcylindrical; *legs* formed for wading, having all the toes distinct; *thighs* half naked; *body* compressed, covered with a thin skin; *flesh* delicate; *tail* short; *food* marsh animalcules; *nest* chiefly on the ground. They live variously.

V. GALLINÆ. *Bill* convex, the upper mandible arched over the lower; *nostrils* arched over with a cartilagenous membrane; *legs* formed for running; toes rough underneath; *body* fat, muscular, and excellent eating; *food* grain and seeds, which they scratch from the ground and macerate in the crop; *nest* on the ground, made with little care; *eggs* numerous. They are polygamous, fond of rolling in the dust, and teach the young to collect food.

VI. PASSERES. *Bill* conic, pointed; *legs* formed for hopping; toes slender, divided; *body* slender; *flesh* of such as feed on grain pure, of those which feed on insects impure; *nest* formed with wonderful art. They live chiefly in trees and hedges, are monogamous, vocal, and feed the young by thrusting the food down their throats.

EXPLA-



EXPLANATION of the PLATE.

- Fig. 1.* *a.* Spurious wings. *b.* Lesser wing-coverts. *c.* Greater wing-coverts. *d.* Scapulars. *e.* Primary quill-feathers. *f.* Secondary quill-feathers. *g.* Tertiaries. *h.* Rump. *i.* Tail-coverts. *k.* Tail-feathers. *l.* Shoulders. *m.* Crown. *n.* Front. *o.* Hind-head. *p.* Nape. *q.* Chin. *r.* Throat. *s.* Scrag, or neck above. *t.* Interscapular region. *u.* Vent.
- Fig. 2.* *a.* Upper mandible. *b.* Lower mandible. *c.* A tooth-like process. *d.* Frontlet. *e.* Front. *f.* Crown. *g.* Hind-head. *h.* Nape. *i.* Lores. *k.* Temples. *l.* Cheeks. *m.* Chin. *n.* Bristles at the base of the bill.
- Fig. 3.* *a.* A bill with the upper mandible hooked at the point, and furnished with a tooth-like process. *b.* The cere or naked skin, covering the base of the bill, and in which are placed the nostrils. *c.* Orbits or region of the eyes.
- Fig. 4.* A flat bill, pectinate at the edges, and furnished at the tip with a claw or nail.
- Fig. 5.* A foot formed for perching, having 3 toes before and one behind.
- Fig. 6.* A walking foot, having a spur on the heel.
- Fig. 7.* A climbing foot, having 2 toes before and 2 behind.
- Fig. 8.* A palmate or webbed foot.
- Fig. 9.* A semipalmate or half webbed foot.
- Fig. 10.* A pinnate or finned foot.
- Fig. 11.* A lobate foot.

CHARACTERS

CHARACTERS of BIRDS.

I. ACCIPITRES. *Upper mandible with an angular projection.*

- | | |
|-------------------|---|
| 1. VULTUR. | Bill hooked; head naked. |
| 2. <i>Falco.</i> | Bill hooked, covered at the base with a cere. |
| 3. <i>Strix.</i> | Bill hooked, with a frontlet of covered bristles. |
| 4. <i>Lanius.</i> | Bill straightish, notched. |

II. PICÆ. *Bill compressed, convex.*

A. *Feet formed for perching.*

- | | |
|-----------------------|--|
| 30. <i>Trochilus.</i> | Bill bent down, filiform, tubular at the point. |
| 29. <i>Certhia.</i> | Bill bent down, sharp-pointed. |
| 28. <i>Upupa.</i> | Bill bent down, somewhat obtuse. |
| 12. <i>Glaucopis.</i> | Bill bent down, arched; tongue ferrate, fringed. |
| 10. <i>Buphaga.</i> | Bill straight, quadrangular. |
| 23. <i>Sitta.</i> | Bill straight, wedged at the tip. |
| 15. <i>Oriolus.</i> | Bill straight, conic, very sharp-pointed. |
| 14. <i>Coracias.</i> | Bill sharp-edged, the point bent down. |
| 16. <i>Gracula.</i> | Bill sharp-edged, equal, naked at the base. |
| 13. <i>Corvus.</i> | Bill sharp-edged; frontlet reversed. |
| 17. <i>Pardisea.</i> | Bill somewhat sharp-edged; frontlet velvety. |

B. *Feet formed for climbing.*

- | | |
|------------------------|--|
| 6. <i>Rhamphastos.</i> | Bill ferrate; tongue feathered. |
| 18. <i>Trogon.</i> | Bill ferrate, hooked at the point. |
| 8. <i>Scythrops.</i> | Bill sharp-edged, grooved; tongue split. |
| 5. <i>Pfittacus.</i> | Bill hooked, upper mandible moveable; tongue fleshy. |
| 11. <i>Crotophaga.</i> | Bill wrinkled, angular at the edges. |
| 26. <i>Galbula.</i> | Bill quadrangular, very sharp-pointed. |
| 22. <i>Picus.</i> | Bill angular; tongue worm-shaped. |
| 21. <i>Yunx.</i> | Bill smooth; tongue worm-shaped. |
| 20. <i>Cuculus.</i> | Bill smooth; nostrils surrounded with a rim. |
| 19. <i>Bucco.</i> | Bill smooth; notched, hooked. |

C. *Feet*

C. *Feet formed for walking.*

9. *Buceros*. Bill ferrate; front bony.
 7. *Momotus*. Bill ferrate; tongue feathered.
 25. *Alcedo*. Bill straight, triangular.
 27. *Merops*. Bill bent down, a little compressed.
 24. *Todus*. Bill linear, depressed, straight.

III. ANSERES. *Bill covered with skin, broad at the tip.*A. *Bill toothed.*

31. *Anas*. Bill with a nail at the tip, teeth membranaceous.
 32. *Mergus*. Bill with a nail at the tip, teeth subulate.
 39. *Phaeton*. Bill sharp-edged, compressed, ferrate.
 38. *Platus*. Bill subulate, ferrate.

B. *Bill without teeth.*

43. *Rynchops*. Bill with the upper mandible shorter.
 36. *Diomedea*. Bill with the lower mandible truncate.
 34. *Aptenodytes*. Bill straight, narrow, furrowed at the sides.
 33. *Alca*. Bill with transverse lateral wrinkles.
 35. *Procellaria*. Nostrils resembling a tube lying on the base of the bill.
 37. *Pelecanus*. Bill girded; face naked; chin with a pouch.
 41. *Larus*. Bill with the lower mandible gibbous.
 42. *Sterna*. Bill subulate, compressed at the point.
 40. *Colymbus*. Bill subulate, a little compressed at the sides.

IV. GRALLÆ. *Bill roundish, tongue fleshy.*A. *Feet 4-toed.*

44. *Phoenicopterus*. Bill toothed, bent as if broken; feet palmate.
 45. *Platalea*. Bill depressed, widened at the end.
 46. *Palamedea*. Bill sharp, hooked at the end.
 47. *Myfateria*. Bill with the lower mandible thicker, bending upwards.
 51. *Tantalus*. Bill bending down; chin with a pouch.
 50. *Ardea*. Bill straight, sharpish, long.
 52. *Corrira*. Bill straight, narrow, short.
 56. *Recurvirostra*. Bill subulate, tapering, pointed, depressed, bending upwards.
 54. *Tringa*. Bill straight, roundish, bluntish.

54. *Tringa*. Bill roundish, blunt; back toe raised from the ground.
 59. *Fulica*. Bill at the root and front bare.
 61. *Parra*. Bill at the base and front with moveable warts.
 60. *Vaginalis*. Bill thick, subconvex; upper mandible tipped with a horny sheath.
 63. *Psophia*. Bill a little arched; nostrils oval.
 48. *Cancroma*. Bill keeled above; nostrils in a furrow.
 62. *Rallus*. Bill somewhat keeled; body a little compressed.
 49. *Scopus*. Bill thick, compressed; nostrils linear, oblique.
 58. *Glareola*. Bill short, straight, hooked; nostrils linear, oblique.

B. Feet 3-toed.

57. *Hæmatopus*. Bill a little compressed, the point wedged.
 55. *Charadrius*. Bill roundish, obtuse.

V. GALLINÆ. Bill convex, upper mandible arched.

64. *Otis*. Bill somewhat convex; tongue notched.
 65. *Struthio*. Bill conic; wings not formed for flying.
 66. *Didus*. Bill straitened in the middle and wrinkled; face naked.
 67. *Pavo*. Bill naked; feathers of the crown turned back.
 68. *Meleagris*. Face and neck covered with naked caruncles.
 69. *Penelope*. Bill naked; head covered with feathers.
 70. *Crax*. Bill covered at the base with a cere.
 71. *Phasianus*. Cheeks naked, smooth.
 72. *Numidia*. Bill with 2 pendent wattles at the base.
 73. *Tetrao*. A naked coloured skin above each eye.

VI. PASSERES. Bill conic, sharp-pointed.

A. Bill thick.

80. *Loxia*. Bill conic-oval.
 79. *Colius*. Bill thick, convex above, narrow beneath.
 83. *Fringilla*. Bill conic, sharp-pointed.
 84. *Phytotoma*. Bill conic, straight, serrate.
 81. *Emberiza*. Bill subconic, lower mandible broader and turned in at the edges.

B. Upper mandible somewhat hooked at the point.

90. *Caprimulgus*. Bill depressed, fringed at the base; nostrils tubular.
 89. *Hirundo*.

89. *Hirundo*. Bill depressed, bent in at the point.
 87. *Pipra*. Bill subulate, slightly bent down at the point.

C. *Upper mandible notched near the end.*

77. *Turdus*. Bill subulate, compressed at the root.
 78. *Amphisp. alba*. Bill subulate, depressed at the root.
 82. *Tanagra*. Bill subulate, conic at the root.
 85. *Muscicapa*. Bill subulate, fringed at the root.

D. *Bill straight, simple, tapering.*

88. *Parus*. Bill subulate; tongue truncate; frontlet reversed.
 86. *Motacilla*. Bill subulate; tongue jagged; hind-claw moderate.
 75. *Alauda*. Bill subulate; tongue cleft; hind-claw long.
 76. *Sturnus*. Bill subulate, depressed at the point.
 74. *Columba*. Bill subarched; nostrils covered with a tumid membrane.

BIRDS.

ORDER I. ACCIPITRES.

Upper mandible with an angular projection each side near the point.

1. VULTUR. *Bill straight, hooked at the point: head bare of feathers, with a naked skin in front: tongue cleft: neck retractile.* *Vulture.*

These are a rapacious tribe, feeding on carcases however putrid, but unless pressed by hunger seldom attacking living animals; bold, gregarious, fly slowly unless when very high in the air, and have an exquisite sense of smell: *tongue large, fleshy; head, and often the cheeks, chin and neck on the upper part naked; legs and feet strong, mostly covered with scales; first joint of the middle toe generally connected to the outer by a strong membrane; wings lined on the inside with down.*

Gryphus. Of vast size; a caruncle on the crown as long as the head; throat naked. *Condur.*

Inhabits *South America*; measures with the wings extended from tip to tip 12—16 feet; builds under the projections of the highest rocks; lays 2 white eggs; preys on birds, kids, lambs, calves, and has been known to carry off children 10 years old; two are said to be able to destroy and devour a cow; when passing near the ground makes a tremendous and deafening noise.

Female larger than the male, and differs in having a tuft on the neck, in its brown colour, and having no ruff; *quills* of the wings $2\frac{1}{2}$ feet long, an inch and half thick; *body* black; *back* white; *neck* ruffed with long white feathers; *throat* red; *head* brown, woolly; *eyes* black; *irids* chestnut; *bill* black tipped with white; *feet* black; *claws* straightish; *tail* small.

Bengalensis.

Bengalensis. **Brown**; head and fore-part of the neck naked; pale chestnut; bill lead-colour, tip with black. *Bengal V.*

Inhabits *Bengal*; $2\frac{1}{4}$ feet long.

Head and neck covered with brown down; feet dark-brown, claws black; crop protuberant.

Papa. **Nostrils** carunculate; crown and neck naked. *King V.*

Inhabits *South America*; size of a hen turkey; feeds on serpents, lizards, frogs, rats, and carrion; flies high.

Head and upper part of the neck as if excoriated; orbits naked, saffron; a blackish, downy fillet surrounds the lower part of the head; body reddish-white; quill-feathers ashy-black; feet and point of the bill red; cere orange, with dentate caruncles behind.

Californicus. **Black**; head and neck naked, pale flesh-colour; bill whitish; feathers of the collar and breast lanceolate.

Inhabits *California*; approaches in size to the last.

Neck inclining to blueish each side; head blackish at the top without any caruncles; wings long; tail large, squarish; feet black, claws long, large, sharp.

Mongchus. **Crown** gibbous; body black. *Arabian V.*

Inhabits *Arabia*; larger than the black eagle.

Head and neck covered with cinereous down; orbits white; bill black at the tip; cere and feet blueish; claws black; shoulders furnished with loose cinereous feathers, into which the head is retracted while it sleeps.

Aura. **Body** grey-brown; quill-feathers black; bill white.

Carrion V.

2. **Body** black; quill-feathers brown; bill cinereous.

Inhabits *North America* and its adjacent islands; size of the last; is protected in *America* for its use in devouring dead carcasses and serpents, which it does along with dogs, each preserving the greatest harmony; will seize meat from the shambles; breaths a most fetid odour, and when taken vomits up an intolerably stinking matter; sleeps by night in flocks on the highest branches of trees.

Body black with a blush of purplish-green; irids blueish-saffron; feet flesh-colour; head rufous.

2) Alike fetid, lazy, and when teized emits a cry like a mouse; builds on rocks, or makes its nest on the ground, of leaves and feathers, lays 2 smoky-white eggs; when young quite white and gradually growing black with age; bill white, point black; quill-feathers, feet and irids brown.

T 2

Cinereus.

Cinereus. Body blackish-brown; quill and tail-feathers tending to cinereous; legs feathered. *Cinereous V.*

Inhabits the higher mountains of *Europe*; $3\frac{1}{2}$ feet long.

Head, throat and upper part of the neck covered with brown down; under the throat a bearded tuft of long feathers; toes yellow; claws black.

Fuscus. Body brown; quill-feathers blackish-brown, the primary white, spotted with brown at the tips; tail-feathers grey brown; legs naked. *Maltese V.*

Inhabits *Europe*, particularly *Malta*; size of a pheasant.

Head brown, covered with down; feathers on the neck narrow; bill black; feet yellowish; claws dusky.

Niger. Body black; quill and tail-feathers brown; feathers of the legs black. *Black V.*

Inhabits *Egypt*, and *Sardinia*; large.

Head downy; upper part of the neck naked; orbits and legs down to the toes covered with white down; tongue smooth, not ferrate; bill straight at the root; nostrils round.

Leucoccephalos. Body snowy; quill and tail-feathers black; collar white. *White V.*

Inhabits *Sardinia* and *Norway*; less than the last; varies in more southern places to grey or cinereous mixed with brown, and the head and neck naked, reddish.

Head and lower part of the neck covered with white down; middle toe covered with eleven distinct scales; claws black.

2. Body sooty spotted with reddish; head, neck and root of the tail white.

Inhabits *Asia*, *Africa*, south of *Europe*; $2\frac{1}{2}$ feet long; builds in lofty rocks; bill black; front and chin naked, and covered with a yellowish wrinkled skin.

Fulvus. Body above reddish-grey; head, neck and collar white; quill and tail-feathers black. *Fulvous V.*

Inhabits mountains of *Persia*; larger than the ring-tail eagle.

Head and neck covered with white down; bill cinereous, covered at the root with a black skin; irids dark yellow; lower part of the neck surrounded with a collar of long, acute, bristly reddish-white feathers; in the middle of the breast is a hollow covered with white down, and surrounded with long, narrow, reddish feathers; feathers beneath, white at the base; red at the tips; legs lead-colour, from the middle of the thighs covered within with thick white down, without with long reddish feathers; claws black.

Pernopterus

Peronop- Quill-feathers black, the outer edges, except of the outer-
terus. most, hoary. *Aquiline V.*

2. Body reddish-ash, spotted with brown; legs naked.

Inhabits *Egypt*, *Syria* and *Persia*; is encouraged in *Cairo* to devour dead carcases, and in *Palestine* to destroy the vast multitudes of mice that swarm in the fields; in *Egypt* it was formerly a capital crime to destroy one.

Male white; quill-feathers black, with the outer margins hoary, except the 2 first; female brown; 4 outer quill-feathers uniform; bill black; cere yellow; nostrils continually running; legs and feet naked.

Cristatus. Body blackish-red; head crested; breast rufous; legs naked. *Crested V.*

Inhabits thick and desert woods of *Europe*; size of the osprey; builds in high trees; swift on foot and in the air; preys on fish, hares, young foxes and kids; when standing the crest is elevated like horns, when in flight not visible.

Feet yellow; bill and claws black; tail long, straight.

Barbarus. Body darkest brown, beneath white inclining to brown; feet woolly; toes lead-colour, claws brown. *Bearded V.*

Inhabits *Africa*, especially the coast of *Barbary*; size of *Falco fulus*.

Bill purplish flesh-colour; lower mandible bearded with a tuft of black feathers; eyebrows red; irids yellow; head mostly covered with white down; front, cheeks and area of the eyes black; neck covered with long, narrow, whitish feathers.

Pondiceri- Body black; head and neck scarlet, nakedish, with fleshy
anus. caruncles on the sides of the neck. *Pondicherry V.*

Inhabits *India*; size of a goose; bill black; feet yellow.

Indicus. Body brown with pale stripes above; head and neck naked, reddish; quill and tail-feathers black. *Indian V.*

Inhabits *India*; size of the last: very voracious, feeds on fish and carrion.

Head downy; bill black; neck naked; breast covered with truncate feathers.

Garginia- Body white; quill-feathers black; bill and legs grey.
rus. *Coromandel V.*

Inhabits *India*; size of a turkey; irids red.

2. FALCO.

2. FALCO. *Bill* hooked, the base covered with a cere : *head* covered with close-set feathers : *tongue* bifid.

These in their habits resemble the last, except that a few make their nest on the ground ; are not gregarious ; quick-sighted ; *bills* more hooked ; *nostrils* small, oval, placed in the cere ; *legs* and feet scaly ; middle and outer toes connected.

A. *Bill* hooked only at the point, bearded at the base with extended bristles.

Serpentarius. Body black ; hind-head crested ; tail-feathers white at the tips, the 2 middle ones longest ; legs very long.

Secretary Vulture.

Inhabits interior *Africa* and the *Philippine islands* ; 3 feet high ; remarkable for the length of its legs ; feeds on smaller animals.

Bill black ; *cere* white ; *orbits* orange, naked ; *irids* pale cinereous ; *tail* rounded ; *legs* brownish ; *claws* short, black, hooked, not very sharp ; *crest* may be erected or depressed.

Harpyja. Head crested with long feathers ; body beneath variegated.

Crested Eagle.

Inhabits *South America* ; size of a sheep ; is said to be able to cleave a man's skull at a stroke ; erects the crest in the form of a coronet.

Body above mixed with black, beneath with white and tawny ; *neck*, *back*, *tail* and *crest* black ; *eyes* with a nictitant membrane ; under the *crop* white feathers, which when irritated hang to the ground ; *wings* and *tail* beneath spotted with black and white.

Jacquin. Feathers of the head long, numerous ; feet naked ; body beneath snowy.

Crowned Vulture.

Inhabits mountains of *New Granada* ; $2\frac{1}{2}$ feet high.

Back, *wings*, greater part of the *neck* and *bill* black ; *head* reddish-ash, with a crested tuft of long feathers, which when irritated are erected ; *tail* long, whitish, with transverse black bands ; *feet* and *toes* yellow ; *claws* black.

Ambufus. Body pale tawny ; frontlet naked ; cere large ; feet blueish.

Tawny Vulture.

Inhabits *Falkland islands* ; $2\frac{1}{2}$ feet long.

Bill short, thick, dark ; *cere* bristly ; lower mandible bearded.

with a tuft of long slender feathers; *wing-coverts* pale tawny mixed with brown; *tail* dirty-white, with brown bands; *claws* long, slightly curved.

Angolensis. Body white; cere blueish; orbits naked, crimson; primary wing-coverts and base of the tail black. *Angola Vulture*.
Inhabits *Angola*.

Bill whitish, long, a little hooked; *irids* straw-colour; *tail* white at the tip; *feet* dirty-white, scaly; *crop* protuberant; *head* and *neck* clothed with feathers.

Bartolus. Whitish fiery-red; back brown; a black stripe above and beneath the eyes. *Bearded Eagle*.

2. Reddish; back black; quill and tail-feathers brown.

3. Cere blueish; legs and body above chefnut mixed with white; tail cinereous.

Inhabits the *Alps*, 2, 3) mountains of *Persia*; 4 feet long; builds in holes of inaccessible rocks; preys on alpine quadrupeds, and will attack men when asleep; flies in flocks.

Bill cinereous mixed with reddish, surrounded at the sides and underneath with black stiff bristles, straightish, hooked at the point, and furrowed each side; *nostrils* large, oval, bristly; *quill-feathers* 28, cinereous, shining; *tail-feathers* 12, cinereous in the middle; *feet* hairy down to the toes; *claws* black, strong, a little curved.

Albicollis. Cere and feet yellow; quill-feathers white, the middle ones tipped with black. *Cinereous Eagle*.

Inhabits *Europe*; size of a turkey; feeds on birds and fish.

Head and *neck* pale cinereous; *irids* and *bill* pale yellow; *nostrils* and between the eyes blueish, naked, with a few bristles; *body* and *wings* cinereous mixed with brown; *tail* white; *feet* below the knees downy, shining yellow; *claws* black.

B. Feet generally rough; of larger size.

Longirostris. Cere rusty; feet white spotted with black, downy; breast rufous; sides banded with black. *Crowned Eagle*.

Inhabits *Guinea*. Body beneath white with round black spots; feathers on the crown long, and may be erected at pleasure; *bill* rusty-brown; *irids* orange; area of the eyes and front whitish; *tail* above dark cinereous striped with black; *toes* orange; *claws* black.

Griseus. Cere rosy; legs yellow; body ferruginous; head whitish; crown crested, ferruginous.

Inhabits

Inhabits *Amba*: Crest long, which it is not able to erect; *orb* bits whitish; eyes yellow; bill blueish; quill-feathers long blackish; tail longer than the wings, blackish; tail-coverts white; claws black.

Tharus. Cere and feet yellow; body grey; crown crested.

Chilese Eagle

Inhabits *Chili*; builds in the highest trees, making its nest of twigs, wool, hair and feathers; lays 5 eggs; feeds on carrion and domestic birds; size of a capon.

Crest black, outer feathers longer; bill whitish; quill and tail feathers black at the tip; feet scaly, claws strong; male whitish, spotted with black; female grey, less.

**Melanotos*. Cere yellow; feet yellow, somewhat downy; body rusty black with yellow streaks. *Black Eagle*

Inhabits *Europe* and *North America*; 2 feet 10 inches long.

Bill horn-colour verging to blue; irids chestnut; exterior part of the tail white, with blackish spots, tip whitish; legs dirty white, toes yellow; claws black.

Glaucopsis. Cere and legs citron-yellow; legs somewhat downy; back and breast brown; head and crown yellowish-white with brown stripes; quill-feathers black. *German Eagle*

Inhabits *Germany*; 1 foot 9 inches long.

Bill glaucous; nostrils large, oval, bristly; mouth within as tongue rosy; tongue fleshy, the edges horny, hardly cleft to the end; irids hoary-yellow; front with brown lunate mark; legs short, covered with soft feathers; feet on the fore-part little downy; claws black; tail above reddish-brown, beneath dirty-white, each side with 6 black bands.

Leucocephalus. Cere and legs yellow; legs somewhat downy; body brown; head and tail white. *Bald Eagle*

Inhabits woods of *Europe* and *America*; 3 feet 3 inches long; feeds on hogs, lambs, and fish, which it takes from other birds; nest large; eggs 2.

Bill yellow; head, neck, irids and tail white; toes yellow; claws black; rest of the body chocolate.

**Ossefragus*. Cere and legs yellow; legs somewhat downy; body ferruginous; tail-feathers white on the inner side. *Osprey*

Inhabits *Europe* and *North America*; size of a turkey; lives chiefly on fish, which it catches dexterously.

Feathers white at the base, ferruginous in the middle, black at the tip; quill-feathers blackish, secondaries whitish on the

inner side; *tail-feathers* white on the inner side, shaft snowy; *tail-coverts* nearly white; *legs* yellow; *female* dark-rusty.

**Chrysa-*
etus.

Cere yellow; legs downy, yellowish-rusty; body variegated brown and rusty; tail black, waved at the base with cinereous. *Golden Eagle.*

Inhabits *Europe* and *Siberia*; flies to a vast height in serene weather, and descends against a storm; 3 feet long: *legs* feathered down to the toes; *tail* white beneath, black at the tip.

**Falco.*

Cere yellow; legs downy, rusty; back brown; tail with a white band. *Ring-tailed Eagle.*

2. Tail white with a brown tip.

Inhabits *Europe*, *Asia* and *America*; builds in lofty rocks; is trained by the Tartars to hunt hares, antelopes and foxes; quill-feathers used to mount arrows.

Front between the eyes and nostrils naked; breast with triangular spots; legs feathered down to the toes.

Leucogast-
er.

White; back, wings, and tail dark brown; tip of the tail white; legs yellow *White-bellied Eagle.*

Inhabits *North America*; 2 feet 9 inches long; bill large, yellowish-brown; claws black.

Japonensis

Cere dusky; legs yellow; body brown. *Japanese Eagle.*

Inhabits *Japan*; hardly 2 feet long.

Bill narrow, blue at the base, blackish at the tip, beneath yellowish: front buff: feathers on the rest of the head and body brown, rusty at the tips: throat white streaked with black, surrounded with a black ring: feathers of the breast and belly yellowish-white at the edges: claws large, black.

Plancus.

Cere, orbits and legs orange; crest black; breast and body above grey waved with black, beneath black; tail white with transverse black bands. *Plaintive Eagle.*

Inhabits *Terra del fuego*; 25 inches long. Wings brown: tail at the tip, beak and claws black.

America-
nus.

Cere and downy legs yellow; head, neck and breast dusky-cinereous; transverse band on the cheeks, back, belly, wings and tail black. *Black-checked Eagle.*

Inhabits *North America*: size of *A. fulvus*: bill blueish.

Albus. Entirely white. *White Eagle.*
Inhabits the *Alps*; size of the golden eagle.

Candidus. Body white; wings black at the tips.
Inhabits *Louisiana*; less than the last: with its wings the natives adorn the calumet or pipe of peace.

Navius. Cere and downy legs yellow; body ferruginous, spotted with white below the wings. *Small Eagle.*
Inhabits *Europe*: size of a cock; feeds on small quadrupeds.
Irids yellow; secondary tail-coverts white; claws black.

Maculatus. Cere and downy legs yellow; body above ferruginous, beneath brown. *Spotted Eagle.*
Inhabits *Europe, Arabia and Persia*; 2 feet long.
Bill large, black; *irids* cinereous; feathers of the shoulders and wing-coverts with whitish oval spots; back spotted with buff; belly with buff lines; claws black.

Albicaudus. Cere and naked legs yellow; head and neck cinereous verging to chestnut; body above dusky-ferruginous, beneath ferruginous and blackish; tail white. *White-tailed Eagle.*
Inhabits *Europe*; size of a large cock. Bill and *irids* yellow; feathers black at the tip; claws black.

Gallicus. Bill cinereous; legs naked, yellowish; body grey-brown beneath (in the male) whitish with reddish-brown spots. *French Eagle.*
Inhabits *France*; 2 feet long; feeds on rats, mice, frogs; builds its nest mostly on the ground; eggs 3, grey.
Irids yellow; tail-feathers white with brown transverse stripes; brown at the tips and edges; claws grey.

Australis. Brown; cere yellow; tail black with dirty-whitish spots on the tip. *Statenland Eagle.*
Inhabits *Statenland*; 2 feet long; voice like a hen.

Niger. Cere and downy legs yellow; head, neck, belly and wing-coverts ferruginous; throat, breast, back and quill feathers black. *Black-backed Eagle.*
Size of the golden eagle; bill and claws black; upper half the tail white, lower black.

Leucoryphus.

Leucorhynchus. Cere livid-cinereous; legs pale whitish, a little downy; body clouded brown; crown with a triangular white spot; chin white. *White-crowned Eagle*.

Inhabits *Siberia*: larger than the osprey; tongue rounded, entire; irids grey-brown; wings dusky-black, within white; tail long, stiff, equal; claws very large, black.

Maginik. Cere yellow; legs downy and with the body dusky ferruginous; back mixed with white. *Russian Eagle*.

Inhabits deserts near the *Tanais*; 2 feet 3 inches long; feeds on mice and small birds.

Bill, pupil, claws and quill-feathers black; eyelids pale blue; irids pale; tail equal; tail-feathers black with dusky-grey bands, tawny at the tips.

Cristatus. Head crested; back, throat and wings black; belly white; tail with 4 parallel cinereous bands. *Crested Falcon*.
Size of a turkey; lower mandible straight.

* *Lagopus*. Cere and downy legs yellow; body black spotted with white; tail-feathers white, towards the tip black.

Rough-legged Falcon.

Inhabits *Europe* and *North America*; 2 feet 2 inches long.

Head, neck and breast yellowish-white with oblong brown bands; tail brown, the base and tip white.

Grœnlandica. Cere and legs lead-colour; body above brownish, beneath whitish with longitudinal brown streaks.

Greenland Eagle.

Inhabits *Greenland*; of small size; lives on birds.

Crown brown with irregular oblong white spots; front whitish; cheeks blackish; head on the hind-part and throat white; breast and belly yellowish-white with longitudinal brown stripes; back dusky tinged with blue, the ends of the feathers sprinkled with a few white spots; wings beneath variegated black and white; tail above dusky crossed with paler bars, underneath whitish.

Marinus. Cere green; body above brown; back, belly and tail-coverts snowy, variegated with chestnut spots; tail-feathers equal, brown, with 4 paler bands. *Fierce Eagle*.

Inhabits *Russia*; more than 2 feet long; very rapacious.

Bill leaden-black; eyelids blue; irids yellow; head and neck ferruginous mixed with whitish; quill-feathers 26, black, beneath white, towards the tips grey; tail-feathers 12, equal, beneath white; claws sharp.

U 2

Marinus.

Maritimus Cere and legs yellow; body and tip of the tail white; shanks reddish mixed with white. *Javan Eagle.*

Inhabits the sea coast of *Java*; 4 feet long; feeds on fish and carrion; bill yellow.

Egyptius. Cere and half downy legs yellow; body above cinereous, beneath ferruginous; wings above brown; tail forked, as long as the body, barred with brown.

Egyptian Eagle.

Inhabits *Egypt*; a foot and half long.

Bill yellow; tail-feathers black towards the tip; wings underneath grey-brown; tail cinereous; claws black.

Niloticus. Cere and legs yellow; body above reddish-brown with transverse black rays; tail forked, as long as the body; wings variegated with brown, grey, white, and a reddish hue.

Inhabits *Egypt*; 12 inches long. *Sonnini* 1. 326.

Bill black, grey towards the base; irids hazel; feathers of the head black in the middle, of the sides of the head varied with grey, black and red; throat grey; upper part of the breast reddish with black longitudinal spots; rest of the body beneath, grey tinged with red; legs spotted with black.

Mitrus. Cere yellow; tail forked; body ferruginous; head whitish. *Kite.*

2. Crown and throat chestnut

3. Cere greenish; body brownish; head, throat and chestnut.

4. Coverts of the back violet; feathers tipped with a white spot
Inhabits *Europe, Asia and Africa*; about 2 feet long; feeds on offal and poultry; flies placidly and fore-tells storms by its clamour; eggs 3, roundish, whitish, with dirty-yellow spots; migrates into *Europe* the beginning of April.

Irids yellow; claws black; thighs feathered: 3) bill leader black; cere greenish; area of the eyes white; sides of the head pale brown; head and throat chestnut; quill and tail feathers black with dusky tips: 4) feathers white at the tips; quill-feathers marked with streaks and spots alternating white and cherry-colour; from the middle to the base black verging to green or blue; tail-feathers at the tip with 2 narrow stripes yellow and white.

Alcyon. Cere and legs yellow; body above brownish-black; head and body beneath whitish; tail forked. *Black Kite.*

Inhabits

Inhabits *Europe*; less than the last.

Tail a little forked; legs rather slender; claws black.

Asiaticus Cere and legs yellow; legs somewhat downy; body above chestnut, beneath brick-dust colour spotted with brown; tail forked. *Austrian Kite.*

Inhabits woods of *Austria*; size of *F. milvus*; feeds on birds and bats. ●

Bill yellow with a black spot; angles of the mouth yellow; irids and claws black; palate blue; front and throat white spotted with brown; head, breast and wings chestnut; tail small with blackish bands, feathers tip with white.

*Brazilian-
js.* Feet yellow; body tawny varied with white and yellow spots; tail variegated with white and brown.

Brazil Kite.

Inhabits *Brazil*; size of *F. milvus*; destructive to poultry.

Bill and claws long, sharp, black; eyes and irids yellow; breast and belly often white; tail 9 inches long.

Fuscatus. Cere dusky; legs yellowish; body above brown, beneath whitish; tail forked, very long. *Swallow-tailed Falcon.*

Inhabits *Carolina* and *Peru*; 2 feet long; feeds on lizards, serpents and insects, which it chiefly takes on the wing.

Bill bristly at the base: irids red: head and neck snowy: back shining purple and green.

Haliaetus. Cere and feet blue; body brown above, white beneath; head white. *Bald Buzzard.*

2. Cere cinereous; legs pale; body above grey, beneath whitish; tail equal.

3. Tail brown, colour of the body; crown black, or brown variegated with white; belly white.

4. Body rusty-brown; a white line from the upper mandible through the region of the eyes to the hind-head, which is also white.

Inhabits *Europe*, *America* and *Siberia*; in marshy places, building among the reeds; nearly 2 foot long: feeds on ducks, and fish which it catches by diving for.

A brown bar descends from each eye by the sides of the neck to the wings.

*Antillan-
um.* Body brown; belly white; crown black. *Mansfenny.*
Inhabits *West Indian islands*; 18 inches long: feeds on birds and reptiles; legs and claws very large and strong.

Sinensis.

Sinenfis, Cere and legs yellow; body above brown, beneath yellowish. *Chinese Eagle*.
Inhabits *India* and *China*. Bill and claws large, black: irids brown: crown dusky: middle stripe of the wings dark.

Cheela, Head slightly crested; body brown; wing-coverts spotted with white; rump white; tail with a broad white band. *Cheela Eagle*.
Inhabits *India*. Bill blue: irids and legs yellow.

Asiaticus. Legs yellow, half downy; body brown above, white beneath; breast streaked; tail-feathers silver-grey, external ones with 5 pale bands. *Asiatic Eagle*.
Inhabits *China*; 21 inches long.
Bill black: quill-feathers grey with black bands: upper tail-coverts white: legs downy on the fore-part.

Nova Hol-landia. Body white; cere and legs yellow; hind-claw twice as long as the fore. *New-Holland Eagle*.
Inhabits *New-Holland*; 20 inches long: orbits yellow.

Urubitinga Cere and legs yellow; body brown; wings blackish mixed with cinereous; tail white, the tip black speckled with white. *Brazilian Eagle*.
Inhabits *Brazil*; size of a half grown duck.
Bill thick, black: eyes large.

Ponticerianus. Cere blueish; legs yellow; body chestnut; head, neck and breast white; a longitudinal brown line in the middle of all the feathers. *Pondicherry Eagle*.
Inhabits *India*; 1 foot 7 inches long.
Bill cinereous, yellow at the tip: the 6 first quill-feathers blackish on the lower half: claws black.

Æquinoctialis. Legs yellow; head, neck and back black-brown; breast reddish; wing-coverts and shoulders chocolate; tail black; the feathers, except the 2 middle ones, marked with the letter V in white. *Equinoctial Eagle*.
Inhabits *Cayenne*; 21 inches long.
Bill pale: claws pale tipped with black.

C. Legs naked; less.

Orientalis. Legs lead-colour; above the eyes a ferruginous streak; head and body above dusky-brown, beneath rusty-brown; tail spotted with white. *Oriental Hawk*.
Inhabits

Inhabits *Japan*; 17 inches long.

Bill large, black, lower mandible yellow: *head* darker than the body: *feathers* with a black middle stripe: secondary wing-coverts spotted with white: *claws* black: *tail* 8 inches long.

Indicus.

Cere and legs yellow; front and rump white; back reddish; belly rusty-brown streaked with whitish; tail brown, with 5 black bands. *Javan Hawk.*

Inhabits *Java*; size of the last.

Bill yellow at the base, tip black: lower wing-coverts dirty reddish-white waved with rusty: quill-feathers transversely streaked and tipped with black: tail-coverts dotted with white: throat and breast reddish-brown: claws black: nape whitish.

* *Buteo.*

Cere and legs yellow; body brown; belly pale with brown spots. *Buzzard.*

Inhabits *Europe*; 20 inches long: feeds on birds, insects and smaller animals: varies in its colours.

Bill lead-colour: irids dusky: claws black.

*Callina-
rius.*

Cere and feet yellow; body above brown, beneath rufous, with brown oval spots; tail barred with brown.

Great Buzzard.

2. Wings more variegated.

Inhabits *Europe*; 20—23 inches long.

Bill and claws black: irids saffron-colour.

*Jamaican-
fis.*

Cere and legs yellow; body-brownish-buff, with paler spots beneath; crown pale. *Jamaica Buzzard.*

Inhabits *Jamaica*; very beautiful: size of *F. buteo*.

Bill and claws black: irids yellow: shafts of the back and tail-feathers brown in the middle: legs short.

Borealis.

Cere and legs pale yellow; body above brown, beneath white; tail pale rusty, with a transverse rusty bar near the tip. *American Buzzard.*

Inhabits *North America*; size of the last.

Bill and claws black: chin white mixed with brown: throat and breast paler than the back: rump white.

Laerianus Legs yellow; head alternately streaked with brown and white; body above brown, beneath white; wings dark brown. *Leverian Falcon.*

Inhabits *Carolina*: size of the last.

Bill dusky: feathers with a large white spot at the tip: tail-feathers with 9 white and as many dusky bands, the middle ones dusky and cinereous. *Rufus.*

- Rufus.* Legs yellow; body rufous, above verging to brown; tail cinereous. *Harpy Falcon.*
Inhabits *France* and *Germany*, near the banks of rivers; preys on fish; 20 inches long.
Bill and *claws* black; *irids* saffron.
- Variegatus* Legs yellow; head and neck white spotted with ferruginous; body above brown, beneath white; tail pale brown with paler bands crossing each other. *Speckled Buzzard.*
Inhabits *North America*; above 12 inches long.
Bill dusky; *claws* black.
- Allidus.* Legs yellow; body white with large brown spots; tail dusky with white streaks and dots. *Buzzardet.*
Inhabits *North America*; 15 inches long; legs long; spots underneath few; lesser coverts brown.
- Apivorus* Cere black; feet half naked, yellow; head cinereous; tail brown, with 2 dusky bands, and tip with white. *Honey Buzzard.*
Inhabits *Europe*; nearly 2 feet long; feeds on mice, small birds, reptiles and insects, particularly bees; eggs rusty with darker spots.
- Æruginosus.* Cere greenish; body grey; crown, chin, arm-pits and legs yellow. *Moor Buzzard.*
Inhabits *Europe*; 21 inches long; builds its nest in marshy places; lives on fish, aquatic birds and rabbits; varies in colour.
- Sclavonicus.* Cere yellow; legs downy; body brick-dust colour with black spots; head and neck whitish. *Sclavonian Buzzard.*
Inhabits *Sclavonia*; size of a common cock.
Bill blueish-black; secondary quill-feathers brown with black bands; wing-coverts variegated with dull red and black spots; tail white on the upper half, growing brown at the end, and edged with dull red; rump and vent whitish with a few dull red spots; legs irregularly streaked and spotted with black; irids blackish.
- Margina-tus.* Cere blueish; body above variegated brown and rusty, beneath rusty with irregular oval brown spots; tail-feathers barred with blackish, edged with white. *Croatian Buzzard.*
Inhabits *Sclavonia* and *Croatia*; size of a hen.

Feathers

Feathers above edged with rusty; *tail* above brown with several darker bands, white at the tip, underneath whitish with white bands; *legs* yellow.

Rufigino- Body above brown, beneath whitish-yellow; breast with a
fas. yellow spot; tail-feathers with 4 dull-red bars.

Rusty Buzzard.

Inhabits *Sclavonia*. *Bill* black; *head* whitish-yellow; *wing-coverts* white at the tip.

Javanicus Cere black, yellow in the middle; legs yellow; head, neck and breast chesnut; back brown. *Java Buzzard.*
Inhabits the coasts of *Java*; feeds on fish.

Cinereus. Cere and legs blueish; line above the eyes white spotted with brown; body above dark cinereous mixed with white. *Ash-colour Buzzard.*

Inhabits *Hudson's Bay*; size of a hen; preys on partridges.

Tail above dark ash-colour with transverse grey bands, beneath cinereous with white bands; *irids* yellow.

Lineatus. Cere and legs yellow; body above dusky-brown, beneath rufous with white and pale rusty lines; tail-feathers dusky-brown with 2 transverse dirty-white bands and tips. *Red-shouldered Buzzard.*

Inhabits *Long island*; 20—22 inches long.

Bill blue; *claws* black; *head* and *neck* yellowish-white streaked with dusky lines.

Gislaletus. Body dusky-brown, beneath slightly spotted with white; tail-feathers in the middle pale brown. *Plain Falcon.*
Inhabits *Hudson's Bay*; 2 feet long. *Bill* black; *nape* spotted with white.

Ruficollis. Cere, eyelids and legs yellow; body waved with cinereous and white; collar white. *Collared Falcon.*

Inhabits *Sweden*, *Siberia* and *Greenland*; size of a hen.

Bill lead-colour; *body* beneath white, with small brown heart-shaped spots; *tail* with 12—13 bands alternately white and brown; *claws* black.

Nova See- Cere and legs yellow; body black-brown, beneath spotted
landia. with reddish; wings and tail spotted with grey.

New-Zealand Falcon.

Inhabits

Inhabits *New-Zealand*; 18 inches long, female 23.

Bill blue, black at the tip; irids and naked orbits blue, of the female yellow.

**Palumbarius*. Cere black edged with yellow; legs yellow; body brown; tail-feathers with pale bands; eyebrows white.

Goshawk.

Inhabits *Europe* and *North America*; 22 inches long; devours poultry, and was formerly much used in falconry.

Bill blue, black at the tip; irids yellow; head brown; body beneath white waved with black; tail long, cinereous, white at the tip; claws black; eggs blueish-white.

Cayennensis. Legs blue; head and neck blueish-white; back and wings dusky-ash; throat, breast and belly whitish.

Cayenne Falcon.

Inhabits *Cayenne*.

Bill blue; claws and primary quill-feathers black, secondaries streaked with black; tail with 4—5 alternately black and white bands, white at the tip.

Macrourus Cere and legs yellow; bill blackish; body above cinereous, beneath white; inner quill-feathers cinereous with white tips.

Long-tailed Falcon.

Inhabits *Russia*; 19 inches long, tail nearly 9.

Bill black, green at the root.

**Gentilis*. Cere and legs yellow; body cinereous with brown spots; tail with 4 blackish bands.

Gentle Falcon.

Inhabits mountains of *Europe* and *North America*; larger than the goshawk; lives on partridges.

Bill lead-colour; irids yellow; head reddish with oblong black spots; tail dotted with white; claws black.

Communis Body brown; the feathers edged with rusty; tail with darker transverse bands; bill blueish-ash; cere, irids and legs yellow.

Common Falcon.

2. Inclining to brown.

Yearling Falcon.

3. Back gibbous.

Aged Falcon.

4. Head, neck and breast with brown spots.

5. Entirely white, with hardly visible yellow spots.

6. Uniformly brownish-black.

7. Wings spotted.

8. Body above brown with darker spots, beneath white with brown spots.

9. Spotted

9. Spotted with black and red.
 10. Body beneath reddish-tawny.
 11. Breast yellow with rusty spots; wings towards the tips spotted with white.

Inhabits *Europe* and *North America*, 5) *China*, 7) *Hudson's Bay*, 10) *India*; larger than the goshawk; feeds on partridges; bill dusky or lead-colour; irids yellow; body beneath white, with dusky heart-shaped spots; tail dotted with white; claws black.

Islandus. Cere and legs yellow; body brown; beneath white with hearted black spots; tail banded with white.

Iceland Falcon.

2. White; above with small hearted black spots; tail white; 2 middle tail-feathers obscurely banded with black.
 3. White, with large hearted spots; tail-feathers white, all barred with black.

Inhabits *Iceland*; 21 inches long.

Head white mixed with ferruginous; back dusky, the feathers whitish, banded with brown and edged with white; tail rounded, with about 14 bands alternately brown and white; claws black, the hind one very long.

Barbarus. Cere and legs yellow; body blueish spotted with brown; breast without spots; tail barred. *Barbary Falcon.*

Inhabits *Barbary*; 17 inches long.

Bill black; irids yellow; wings scarcely spotted; breast yellowish-white verging to blue; belly with oblong black spots; tail with 7 transverse brown bands.

* *Peregrinus.* Cere and legs yellow; body above cinereous striped with brown, beneath reddish-white with blackish stripes; tail dotted with white. *Peregrine Falcon.*

2. Wings rufous; toes very long.

Inhabits *Europe*, northern *Asia* and *America*; migrates.

* *Verficolor* Cere yellow; head and body above white with pale reddish spots, beneath white; breast a little spotted with ferruginous. *Spotted Falcon.*

Inhabits *England*; size of *F. buteo*.

Bill black; wings with cinereous bands; tail barred with lighter and darker brown; rump white.

Pennatus. Cere and legs yellow; body above variegated with blackish-brown and dirty-grey, beneath brown-yellow with longi-

longitudinal blackish lines; feet feathered to the toes.

Booted Falcon.

Length 19—20 inches; bill blackish; eyelids yellow; head and neck yellow-grey with blackish lines; tail brown, towards the tip blackish, grey at the point, spotted with white at the sides; claws black.

Spadiceus. Cere yellow; body chocolate mixed with rusty, beneath white at the sides; legs feathered to the toes.

Chocolate Falcon.

2. Rump white.

Inhabits *Hudson's Bay*; 22 inches long; feeds on the duck tribe, which it seizes from rocks as they rise out of the water. Bill black; 2 middle tail-feathers black and cinereous, the rest pale, black without and white within; toes short.

S. Johan- Cere and feathered legs yellow; body brown, above with
nis. black and dirty-white oblique lines, beneath with white and yellowish spots; tail barred, white at the tip.

St. John's Falcon.

Inhabits *Hudson's Bay*; 21 inches long. Toes short.

Sacer. Cere and legs blue; back, breast and primary wing-coverts spotted with brown; tail with kidney-shaped spots.

Sacer.

2. Hind-head mottled with white; body beneath white, the feathers with a dusky spot in the middle.

Inhabits *Europe* and *Tartary*, 2) *North America*; 2 feet long; patient of cold; used in hunting the white heron.

Head pale brown; wing-coverts and primary quill-feathers with transverse white lines; tail brown, with oval transverse red spots on the sides; legs feathered to the toes.

Nova-ter- Cere and legs yellow; body above brown, beneath and
ra. hind-head ferruginous; tail variegated with lighter and darker brown lines.

Newfoundland Falcon.

Inhabits *Newfoundland*; 20 inches long; legs half-feathered.

Stellaris. Legs blue; body blackish with radiate spots, beneath mixed white and black.

Starry Falcon.

Inhabits *Europe*; size of the peregrine: wings shorter; tail longer; irids golden-yellow.

Hyemalis. Cere yellow; head and back black-brown; neck streaked with white; breast and belly white with hearted spots.

Winter Falcon.

Inhabits

Inhabits *New York* during winter; 20 inches long.

Male wing-coverts dusky, dirty-white at the edges, the outer ones orange; tail with brown and black bars, white at the tip; bill black; feet long, slender.

Rhombus Legs yellowish; body above grey, beneath brown with rhombic spots; tail-feathers with 11 oblique black bars. *Rhombic Falcon.*

Inhabits *India*; 19 inches long; head and back of the neck black; bill dusky.

Nigricollis Legs yellow; body reddish with black bars; crown and neck streaked with black; tail-feathers blackish at the tips. *Black-necked Falcon.*

Inhabits *Cayenne*. Bill black; behind the eyes a black ridge.

Albicollis. Legs yellow; head, neck, fore-part of the back, breast and belly white; wings black with white spots; feathers between the shoulders with square black spots. *White-necked Falcon.*

Inhabits *Cayenne*; 22 inches long; quill-feathers spotted beneath with white from the root to the middle.

Meridionalis. Cere and chin yellow; head and neck rufous with dark streaks; belly whitish with narrow black bars; 4 middle tail-feathers with one, the outer with 6 pale bars. *Red-headed Falcon.*

Inhabits *Cayenne*; 19 inches long.

*Cirrhatu*s. Cere and feathered legs yellow; crest hanging back; body above black, beneath streaked black and white. *Crested Falcon.*

Inhabits *India*; size of the goshawk.

Bill pale blue; irids yellow; neck tawny; tail with transverse black and cinereous bands; claws black.

Melanoleucos. Legs yellow; head, neck, back, shoulders and quill-feathers black; rest of the body, wing-coverts and tail white. *Pied Falcon.*

Inhabits *Ceylon*; 16 inches long.

Bill, claws and middle wing-coverts blackish; irids yellow; orbits spotted with white.

Ceylanensis Cere yellow; body milk-white; 2 feathers of the hind-head hanging down. *Ceylon Falcon.*

Inhabits *Ceylon*. Bill dusky.

* *Griseus*.

- * *Griseus*. Cere and legs yellow; body above dusky-grey, beneath white with oblong black spots; tail-feathers long, the 2 middle ones uniform the rest spotted. *Grey Falcon*.
Inhabits *England*; size of a crow.
Bill blueish; irids red; head before dusky-brown, behind white, sides and chin buff; quill-feathers spotted with white.
- Gyrfalco*. Cere blue; legs yellow; body brown, with cinereous bands beneath; sides of the tail white. *Brown Gyrfalco*.
Inhabits *Europe*; preys on herons, cranes and pigeons.
Legs sometimes blueish; bill strong, hooked, upper mandible sharply angular at the edges; head streaked longitudinally with dusky; neck and belly white.
- * *Candicans*. Cere and legs blueish-ash; body white spotted with brown. *White Gyrfalco*.
2. Back and wings brown spotted with white; beneath white spotted with black.
Inhabits *Iceland* and *Scotland*; size a goshawk.
Bill blueish-ash, black at the tip; claws lead-colour; irids and orbits blue: 2) irids yellow; legs yellow.
- Snfflator*. Cere and legs yellow; body whitish-brown; eyelids bony. *Surinam Falcon*.
Inhabits *Surinam*, *Cayenne*; when irritated or frightened inflates its head to the size of the body.
Plumage above white at the base; beneath and tail-feathers yellow spotted with white and brown; nostrils with a fleshy lobe between them.
- Cachinnans*. Cere and legs yellow; eyebrows white; body varied brown and whitish; crown white with a black ring. *Laughing Falcon*.
Inhabits *South America*; emits a kind of laugh when looked at.
Back, wings and rump brown; neck, chin, breast, belly and under-parts of the wings white; tail with yellow and black bands.
- * *Lanarius*. Cere yellow; legs and bill blue; body beneath with black longitudinal spots. *Lanner*.
2. Body beneath whitish; quill-feathers blackish.
3. The 2 middle tail-feathers grey; the rest spotted with white.
Inhabits *Europe*, *Sweden* and *Tartary*; size of a buzzard; migrates; builds its nest in low trees, and is much esteemed in falconry.
A white stripe over each eye; breast yellowish-white with brown spots; legs short; primary quill-feathers and tail dusky.

dusky with rusty oval spots; the first only beneath, the tail both sides.

- Melanerpes*. Cere and legs yellow; body black with white spots; beneath white; head and neck white streaked with black; area of the eyes black; quill-feathers black with a white band in the middle. *Streaked Falcon*.
Inhabits Cayenne; $15\frac{1}{2}$ inches long.

- Meleagris*. Bill brown with 2 tooth-like processes; body lead-colour; breast and belly reddish; vent white; quill and tail-feathers barred with white. *Notched Falcon*.
Inhabits Cayenne; 14 inches long; bars on the tail 3, above pale brown, beneath white.

- Circus*. Cere white; legs tawny; body hoary blue; a white arch over the eyes surrounding the chin. *Hen Harrier*.
Inhabits Europe and Africa; 17 inches long.
Bill black; irids and sometimes the cere yellow; hind-head white with pale brown spots; breast and belly white, the former streaked with dusky; 2 middle tail-feathers grey both sides, the rest above grey, beneath white, and all streaked with dusky.

- Pygargus*. Cere and legs yellow; body cinereous; belly pale with oblong rufous spots; orbits white. *Ring-tail Hawk*.
Inhabits Europe and temperate parts of Siberia; $7\frac{1}{2}$ inches long.
Bill pale; irids yellow; tail longish, banded with dusky, dotted with white; male with transverse spots beneath, female longitudinal.

- Hudsonia*. Cere and legs yellow; back brown; eyebrows white; shield on the wings blueish. *Hudson's Hawk*.
Inhabits Hudson's Bay; 21 inches long.
Bill and claws black; body beneath white with reddish-brown spots; 2 middle tail-feathers brownish, the outer ones white, the rest blueish-ash; all with transverse brown stripes.

- Urocyon*. Cere blue; legs yellow; body above chocolate, beneath reddish-buff; eyebrows yellow; tail with pale and dusky-brown spots. *Cayenne Ring-tail*.
Inhabits Cayenne; 2 feet long.
Bill and claws black; primary quill-feathers within dusky, without ashy-blue with brown bands, secondary paler; tail-feathers white at the tip.

Uliginosus.

Uliginofus. Cere and legs orange; body above brown, beneath shining rusty; tail with 4 black bands. *Marsh Hawk*.

Inhabits *Jamaica* and *Pensylvania* during summer only; lives in fens, and feeds on small birds, reptiles and serpents.

Lithofalco. Cere yellow; body above cinereous, beneath reddish with longitudinal brown spots; tail cinereous, growing black towards the tip and terminated with white.

Stone Falcon.

Inhabits *Europe*; a foot long.

Bill blueish-ash; irids yellow; 2 middle tail-feathers uniform, the rest barred with brown.

Montanus. Legs yellow; body above ashy-brown; chin and throat spotted with whitish; tail cinereous at the root, blackish in the middle, white at the tip. *Mountain Falcon*.

2. Body cinereous above, white beneath; 2 outer tail-feathers white.

Inhabits *Europe*; smaller than *F. peregrinus*.

Bill and claws black; spots on the neck sometimes rusty sometimes black; neck and breast sometimes wholly black.

* *Tinnunculus*. Cere and legs yellow: back purplish-red with black spots; breast with brown streaks; tail rounded. *Kestrel*.

2. Plumage grey.

3. Body reddish streaked with brown, beneath with longitudinal brown spots; tail barred with brown, tip with white.

Inhabits *Europe* and *Siberia*, on the tops of old buildings; migrates into the north early in the spring; preys on mice, small birds and insects; was formerly trained for catching game.

Tail with a broad black band towards the tip; tail-feathers except the middle ones, white at the tip; male, crown and tail pale grey; back and wings purplish-red spotted with black; female much heavier, head reddish, crown streaked with black; back, tail and wing-coverts rusty with black line.

Bohemicus. Legs yellowish; body above cinereous, beneath white; outer quill-feathers black outside; orbits white.

Bohemian Hawk.

Inhabits mountains of *Bohemia*; 12 inches long; preys during the evening on mice.

Bill near the angles of the mouth yellowish; irids yellow; tail sharp, long; legs thickish, feathered below the knees; claws black, roundish.

Piscator.

Pisator. **Legs** brown; head ferruginous with long feathers; body above cinereous, beneath pale yellowish-white; tail above pale brown, beneath blueish-ash. *Fishing Falcon.*
Inhabits Senegal; feeds on fish, which it tears to pieces.
Bill and *irids* yellow; margin of the upper feathers rusty-brown, under spotted on the middle with brown.

Buteo. **Legs** pale; head and body above brown, beneath white with yellow lunular spots; tail pale brown with 4 paler lines. *Brown Hawk.*
Inhabits Ceylon; 13 inches long.
Bill blue, black at the tip; *irids* yellow; wing-coverts white at the edges; shoulders spotted with white; claws black.

Aquilus. **Cere** and legs yellow; body above blue, beneath reddish-white; neck purplish-red. *Red-throated Falcon.*
Inhabits South America; 16—18 inches long.
Bill blue; orbits yellow; *irids* orange; claws black.

Fuscus. **Cere** cinereous; legs yellow; body waved with black, above ashy-brown, beneath whitish. *American Hawk.*
Inhabits America; size and appearance of the next.
Bill pale lead-colour; crown and sides of the head with longitudinal white lines; belly reddish-brown; tail ashy-brown with 3 transverse pale brown stripes, tip paler; claws black.

• *Nisus.* **Cere** green; legs yellow; belly white waved with grey; tail with blackish bands. *Sparrow Hawk.*

2. Back spotted with white.

3. Body entirely white.

Inhabits Europe, Africa and Madeira; male 12, female 15 inches long; very bold, preys on poultry, partridges, pigeons and small birds; is taught to catch larks.

Bill blueish; head, back, wing-coverts and tail sometimes dusky blueish-ash, sometimes dusky-brown edged with rusty; male verging to dove-colour; chin, breast and belly whitish-yellow, in the male more dusky with dusky-brown waves; 2) brown with a few white spots; tail white at the tip with 5 broad black bands; 3) beneath alternately white and brown.

Dubius. **Cere** and legs yellow; head dusky with rusty streaks; body above brown, beneath dirty-white with brown streaks; tail dusky-ash with 4 black bands. *Dubious Falcon.*
Inhabits New York and Carolina; 10 inches long.
Bill dusky; *irids* yellow; wing-coverts edged with rusty; primary tail-feathers dusky-ash with white lines.

Vol. I. — Y

Obscurus.

- Obscurus.* Cere and legs yellow; hind-head and neck spotted with white; body above dusky-brown, beneath white with black lines; tail with 4 broad and 4 narrow dusky bands and tip with white. *Dusky Falcon.*
 Inhabits *New York*; less than the last.
Bill blueish; *head* dusky-brown; *wing-coverts* slightly edged with rusty; *primary quill-feathers* dusky.
- Columbarius.* Cere and legs yellow; body brown, beneath whitish; tail brown with 4 white lines. *Pigeon Hawk.*
 Inhabits *North America*; 10½ inches long; migrates, preys on small birds.
Bill whitish, black at the tip; *irids* yellow; *body* beneath yellowish-white with brown stripes; *claws* black.
2. Body above blueish-grey; plumage streaked in the middle with white.
- Supercili-
ofus.* Cere, legs and eyelids yellow; body brown waved with white; quill-feathers rusty banded with black. *Guiana Falcon.*
 Inhabits *Guiana* and *Surinam*; size of a magpie.
 Secondary *tail-feathers* whitish at the outer edge; *tail* black with 2 broad bands, tip cinereous; *vent* white with a few black streaks; *rump* variegated black and white; *eyebrows* beneath naked, prominent; *lores* with black bristles; *bill* and *claws* black; *lower wing-coverts* white with fine black lines.
- Vespertinus.* Cere, legs and eyelids yellow; vent and thighs rusty. *Ingrian Falcon.*
 Inhabits *Ingria*, *Russia* and *Siberia*; builds on the top branches of trees, or takes possession of the magpie's nest; preys on quails, and goes abroad chiefly in the evening and at night; size of a pigeon.
Body blueish-brown; *belly* blueish-white; *head* brown; *bill* yellow, brown at the tip; *tail-feathers* 12, brown each side *quill-feathers* blueish-white, the first 7 blackish at the tip *legs* naked.
- Vespertinoides.* Cere, legs and eyelids yellow; thighs black; neck, breast and belly brownish spotted with white. *Permian Falcon.*
 Inhabits *Permian* and *Siberia*; half the size of the last.
- Magnirof-
ilis.* Cere and legs yellow; body above brown, beneath white streaked with rusty; tail with black and white bars. *Great-billed Falcon.*
 Inhabits

Inhabits Cayenne; larger than the sparrow hawk.

Legs shorter; *bill* longer, thicker, black; *irids* orange; *feathers* above and on the breast brown edged with rusty; *claws* black.

Vesiferus. **Legs** yellow; body grey-ash, beneath white; larger and lesser wing-coverts black. *Criad Falcon.*

Inhabits India; size of a pigeon; preys on frogs.

Irids yellow; *orbits* red, naked; *eyelids* with lashes.

Johannensis. **Legs** yellow; body rusty with small linear black spots; chin yellow; quill-feathers blackish-brown; tail white, wedged. *Johanna Falcon.*

Inhabits Johanna island.

Bill black, lower mandible yellow at the base.

Subbuteo*. **Cere and legs yellow; back brown; nape white; belly palish with oblong brown spots. *Hobby.*

2. **Body** above blueish-black; cheeks white with a black line reaching through them from the crown.

Inhabits Europe and Siberia; 12 inches long; preys on larks, who are so terrified that they fly to mankind for protection.

Bill blue; *orbits* yellow; *irids* chestnut, seldom yellow; lateral tail-feathers with blackish bars; *claws* black: 2) *breast* white with oblong black spots; primary quill-feathers with oval reddish spots; 2 middle tail-feathers dove-colour; the rest underneath with oval reddish spots.

Aurantius. **Bill** and legs lead-colour; body above dusky-brown with narrow whitish lines crossing each other; chin with long narrow whitish feathers; throat and breast orange; belly and tail with brown interrupted streaks.

Orange-breasted Hobby.

Inhabits Surinam; 15 inches long.

Bill whitish at the base; *throat* with round white spots; lower tail-coverts rusty; tail towards the tip with white lines; legs long, slender; *claws* black.

2. **Streaks** on the body more dusky; chin white; throat orange; 10 inches long.

3. **Legs** tawny; body above blueish-black with blueish streaks, beneath streaked with white.

Size of the last: *belly, vent* and *thighs* reddish; *chin* and *throat* reddish, with a white spot in the middle.

Plumbeus. **Cere** dusky; legs yellow; body cinereous, upper part of the

the back black lead-colour; tail-feathers underneath with 3 white spots. *Spotted-tailed Hobby.*

Inhabits Cayenne; size of the sparrow hawk.

Bill and claws black; head and neck cinereous; legs short.

• *Efalon.* Cere and legs yellow; head ferruginous; body above blueish-ash with rusty spots and stripes; beneath yellowish-white with oblong spots. *Merlin.*

Inhabits Europe; 12 inches long; migrates southerly on the approach of winter.

Bill blueish, varying; irids dusky; tail with alternately dusky and reddish streaks; claws black; eggs brown-red.

2. Front cinereous; crown, back and wing-coverts chestnut; temples with a triangular white spot edged with black; tail chestnut with transverse black stripes, beneath varied with black and white.

3. Body above rufous, beneath white with black spots on both.

4. Resembles the hobby in habits and appearance.

Inhabits 2) New York, 3) West India islands; 9 inches long.

Sparverius Cere yellow; head brown; crown and belly red; wings blueish. *Little Hawk.*

Inhabits Virginia, Carolina and St. Domingo; 11 inches long.

Bill and irids yellowish; head blueish-ash; crown, body above and wing-coverts brown-orange with transverse black streaks; tail red-brown dotted with black; legs yellow; head of the female surrounded with 7 blackish spots.

Domini-
censis. Cere and legs yellow; head cinereous; body above red-brown, beneath dirty-white, both spotted with black. 8 middle-tail-feathers chestnut, towards the tip black white at the extremity. *Domingo Falcon*

Inhabits St. Domingo.

Bill yellow, black at the tip; irids yellow; outer tail-feather of the male white on the outside and tips, inside chestnut with a transverse black spot towards the tips, of the female outside white with 5 black spots, inside chestnut, the second white near the tip with a black spot; claws black.

• *Minutus.* Cere brown; legs yellow; body beneath white; tail-feathers brown banded with black. *Minute Falcon*

Inhabits Malta, rarely England; 11 inches long.

Bill and claws black; body above brown varied with rufous beneath with transverse brownish-red streaks; belly sometimes with lanceolate spots.

Carulefcen

*Carulef-
ans.*

Cere, eyelids, legs and body beneath yellow; back blueish-black; temples surrounded by a white line.

*Bengal Falcon.*Inhabits *Bengal*; 6½ inches long.*Bill* blackish; fore-part of the *head* white; *area* of the eyes naked, yellow; *cheeks* white with a black line; 2 middle *tail-feathers* uniform, the rest beneath with transverse white streaks; *claws* blackish.*Regulus.*

Cere greenish; legs dusky-yellow; ruff ferruginous; body above lead-colour, beneath whitish with rusty spots.

*Siberian Falcon.*Inhabits *Siberia*; a little less than the last; very rare.*Irids* brown; *crown* brown with blackish lines; *wings* white at the edges, varying underneath; *tail-feathers* lead-colour towards the tip, beneath with pale bands, edges black, tips white.*Pumilus.*

Legs yellow; body brown-ash, beneath whitish with blackish bars; crown whitish.

*Tiny Falcon.*Inhabits *Cayenne*; hardly 6 inches long.

3. STRIX. *Bill* hooked, cere o: *nostrils* oblong, covered with bristly recumbent feathers: *head*, auricles and eyes large: *tongue* bifid.

These fly abroad only by night, and prey on small birds, mice and bats; the eyes are weak by day, and generally closed, during which time if discovered they are pestered by small birds: *legs* usually downy to the toes; outer *toe* retractile; *auricles* large, covered with a membrane; outer *quill-feather* serrate on each edge; *claws* hooked, sharp.

A. Eared.

• *Bubo.*

Body tawny.

Great Owl.

2. Body darker with blackish wings.

3. Legs naked.

4. Blackish-yellow variegated with white.

Inhabits *Europe*, *Calmuc Tartary*, *South America*, in caverns and mountainous rocks; preys on hares, rabbits, moles, rats, mice, and sometimes bats and reptiles.*Irids* yellow; *head* and *body* elegantly variegated with black, brown, ash and rusty spots and lines; *claws* large, much hooked, dusky.*Virginiana.*

Virginiana Body above brown, varied with fine zigzag tawny and cinereous lines, beneath pale ash with transverse brown streaks; throat and sides of the breast orange streaked with brown. *Virginian Owl.*

Inhabits *America*; less than the last.

Feathers of the ears large; bill black; irids golden-yellow; wings and tail with brown bands; plumage of the legs cinereous; claws horn-colour.

Scandiaca. Body whitish with black spots. *Scandinavian Owl.*
Inhabits mountains of *Lapland*; size of a turkey.

Zeylonensis Body above reddish-brown, beneath yellowish-white; circles on the face reddish-brown streaked with black. *Ceylon Owl.*

Inhabits *Ceylon*; nearly 2 feet long.

Bill corneous; irids yellow; auricles short, acute; first quill-feathers and tail with transverse black, white and pale red lines; legs half naked.

Sinensis. Body reddish-brown with waved black lines, beneath streaked with reddish-black and barred with white. *Chinese Owl.*

Inhabits *China*; size of *S. otus*.

Bill and legs black; secondary quill-feathers with 4 blackish bars.

Coromanda Body above greyish-red with reddish-white spots, beneath pale red with small semilunar black spots. *Coromandel Owl.*

Inhabits *India*; smaller than the last.

Bill black; irids yellow; legs reddish; cheeks white; quill and tail-feathers barred with reddish-white.

Asio. Body above ferruginous, beneath cinereous; wings with 5 white dots. *Red Owl.*

Inhabits *North America*; 10½ inches long.

Body striped above, spotted beneath with black; primary quill-feathers with black, red, and white lines; tail rufous with dusky bars; legs feathered down to the toes.

Mexicana. Body variegated with brown and black. *Mexican Owl.*
Inhabits *Mexico*; eyes large; irids golden.

Americana.

Americana Head and body above cinereous, beneath rusty; rump white spotted with black; wings and tail rusty with cinereous and grey transverse lines. *American Owl.*

Inhabits *North America*; size of the next.

Bill yellow; irids golden; orbits ash; legs yellow; claws black.

* *Otus.* Feathers of the ears 6. *Long-eared Owl.*

2. Body much darker.

3. Much smaller.

Inhabits *America, Europe and Egypt*; 14 inches long; never migrates, is clamorous and builds in trees.

Horns black and yellow; irids yellow; back and wing-coverts dusky-brown, grey and yellowish-rusty; breast and belly pale yellow with brown longitudinal lines; tail barred with ash-colour and dusky; legs and feet feathered to the claws.

* *Brachy-* Horns short; body above brown, the feathers edged with *tos.* yellow; beneath pale yellow longitudinally streaked with dusky. *Short-eared Owl.*

Inhabits *Europe, America and Siberia*; 14 inches long; watches for mice in barns; tail dusky-brown, the middle feathers with a yellow circle; feathers of the legs yellow.

Brasiliensis Body above pale rusty-brown spotted with white, beneath whitish with rusty-brown spots. *Brazil Owl.*

Inhabits *Brazil*; size of a thrush.

Bill, irids, short feet and toes yellowish.

Navia. Body grey, beneath paler, both spotted with black and rusty; feathers of the head and breast dotted with black. *Mottled Owl.*

Inhabits *New York*; 11 inches long.

Face white spotted with brown; shoulders and wing-coverts with large white spots; primary quill-feathers spotted with black and pale rusty.

Indica. Back dusky; wing-coverts grey with black lines; breast buff with small black arrow-shaped spots. *Indian Owl.*

Inhabits *Ceylon*; 7 inches long.

Bill dusky surrounded with long bristles; head dusky-brown; orbits pale ash; legs half naked, beneath reddish-yellow; ears dusky on the inner, and white on the outer sides; irids scarlet.

Zorca.

Zorca. Feathers of the ears 8—9; bill greenish-yellow. *Sardinian Owl.*
 Inhabits *Sardinia* and *Italy*; toes naked, 7 inches long; solitary, does not migrate, makes a howling noise.

Carniolica. Body whitish-ash, with blackish spots and transverse stripes. *Carniolic Owl.*
 Inhabits *Carniola*; makes its nest in rocks and hollow trees; 8 inches long.
Irids yellow; *tail* spotted with brownish; 6 first *quill-feathers* spotted with whitish on one side.

Deminuta. Body red; of small size. *Taik Owl.*
 Inhabits forests upon the *Ural*; resembles *S. bubo* in colour and form, but much less; hardly weighs a pound; builds its nest in fissures of rocks and hollow trees.

Pulchella. Body grey variegated with brown, rusty and white. *Siberian Owl.*
 Inhabits *Siberia*; 9 inches long.
Bill, legs and claws dirty-whitish; *irids* yellow; *back* dirty-ash; *wings* with oblong white spots; *tail* reddish with brown streaks and dots.

Scops. Ears of one feather each. *Little-horn Owl.*
 Inhabits *Europe*; 7½ inches long; preys on field mice.
Ears hardly conspicuous in the dead body; *colour* varying according to age; grey, rufous, brown or blackish; *legs* spotted with brown; *toes and claws* brown.

B. Earless.

Nyctea. Body whitish, with a few brown lunate spots. *Snowy Owl.*
 Inhabits *Europe, America and Asia*; 2 feet long; flies abroad by day, and preys on herons, hares, mice, and sometimes carrion; makes a howling noise; in winter is often found snow-white.

2. Spots numerous: bill and claws black.

Tengmalmi Body grey with small round spots. *Swedish Owl.*
 Inhabits *Sweden*; size of a blackbird.
Bill dusky with a white tip, and a black line from the base to the eye each side; *eyes* clouded with dusky, and surrounded with a circle of white feathers; *head* grey striped with white, surrounded by a dusky collar spotted with white; *breast and belly* white blotched with dusky; *primary quill-feathers* dusky with white bars; *tail* dusky-grey with white stripes.

* *Nebulosa.*

Nebulosa: Head, neck, breast, back and wing-coverts brown spotted with white; belly and vent dirty-white streaked with brown; tail with brown and whitish bands, whitish at the tip. *Barred Owl*.

Inhabits *Hudson's Bay*, *New York*, rarely *England*; 2 feet long; feeds on hares, mice and cranes.

Bill and irids yellow; eyes surrounded by a whitish circle; primary quill-feathers barred with black and white; legs and toes feathered with whitish; wings shorter than the tail.

Peripicil-lata. Head white, smooth, downy; body above, area of the eyes and chin reddish-brown, beneath reddish-white; breast barred with reddish-brown. *Spectacle Owl*.

Inhabits *Cayenne*; 21 inches long: bill yellow.

Cinerea. Head, neck and wing-coverts sooty, with dirty-white lines; breast and belly whitish, with large oblong dusky-brown spots. *Sooty Owl*.

Inhabits *Hudson's Bay*; 2 feet long; flies in pairs, and preys on mice and hares.

Bill whitish; irids yellow; tail with oblique brown and dirty-white streaks; a part of the skin from the chin to the vent bare of feathers.

Wapacutla. Back and tail-coverts white spotted with dusky: breast and belly dirty-white with reddish lines crossing each other. *Spotted Owl*.

Inhabits *Hudson's Bay*; 2 feet long; forms its nest of moss on the ground; preys on mice and small birds; flesh good.

Bill and claws black, hooked; irids yellow; space between the eyes, cheeks and chin white; feathers of the head black at the tip; shoulders and wing-coverts white with reddish spots; vent white.

Cunicularia. Body above brown, beneath white; legs warty, hairy. *Coquimbo Owl*.

Inhabits *Chili*; size of a pigeon; flies in pairs, sometimes by day; preys on insects and reptiles; lays 4 eggs, variegated with white and yellow, in long subterraneous burrows.

Irids yellow; body above spotted with white.

Aluco. Head rusty; irids black; first quill-feathers ferrate. *Aluco Owl*.

Inhabits *Europe*; 15 inches long; lives during summer in woods, in winter near habitations; feeds on mice.

Vol. I. — Z

Bill

Bill yellowish-white or greenish; *body* above dark rusty with black and whitish spots, beneath white with transverse and longitudinal black spots; *legs* white with small black spots.

Sylvestris. Body variegated white and brown; space round the eyes white; irids red. *Austrian Owl.*

Inhabits *Austria*; size of a fowl; covering of the head with an elegant radiate wreath of white feathers from ear to ear.

Alba. Body above tawny spotted with grey, beneath white; quill and tail-feathers rufous, the latter tipped with white.

White Owl.

Inhabits *Austria*; size of the last.

Bill white; covering of the head with a reddish border.

Noctua. Body pale rufous with longitudinal brown spots; irids brown. *Rufous Owl.*

Inhabits *Austria*; size of a pigeon.

Rufa. Body rusty spotted with brown; irids blueish.

Ferruginous Owl.

Inhabits the woods of *Idria*; size of the last.

Soloniensis. Body above black-brown mixed with tawny, beneath white; tail white, with blackish lines crossing each other near the tip. *Solonese Owl.*

Inhabits *France*; 15 inches long.

Crown and outer circle of feathers round the face varied with reddish and white; *toes* horn-colour.

**Flammea.* Body above pale yellow with white dots, beneath whitish with blackish dots. *Common Owl.*

Inhabits *Europe*, *America* and northern *Asia*; 14 inches long.

Bill white; *irids* dusky; *tail-feathers* within white, outside with dusky lines.

Barbata. Space round the eyes and chin black. *Mountain Owl.*

Inhabits mountains of *Siberia*; resembles *S. aluco*.

Bill and *irids* yellow; *body* cinereous; *primary quill-feathers* ferrate on both edges.

**Stridula.* Body rusty; third quill-feather longer. *Tawny Owl.*

Inhabits *Europe* and *Tartary*; 19 ounces weight.

Plumage above with dusky spots and points; *breast* and *belly* yellowish

yellowish mixed with white, beneath with dusky streaks; tail with pale brown and black spots and lines; irids dusky.

• *Ulula.* Body above brown spotted with white; tail-feathers with linear white bands. *Brown Owl.*

2. Much smaller.

Inhabits *Europe* and *Newfoundland*; 14 inches long.

Irids chestnut; head, wings and back with black spots; shoulders and wing-coverts white; breast pale ash with dusky streaks.

Arctica. Body rusty-brown, above spotted with black, beneath streaked with narrow brown lines; bill, orbits and band under the wings brown. *Arctic Owl.*

Inhabits northern *Sweden*; 18 inches long.

Irids yellow; tail barred with black and rusty; legs white; claws black.

Funerea. Body brown with a few large white spots above, beneath white with transverse narrow brown bars; tail long, with broad brown, and narrow white bars.

Canada Owl.

Inhabits *Europe* and *North America*.

Head black with white points; 5 first inner quill-feathers not spotted on the outer edge; irids yellow.

Hudsonia. Feathers above brown with white edges, beneath white with transverse black lines; bill and irids golden.

Hawk Owl.

Inhabits *Hudson's Bay*; 13 inches long; preys by day.

Crown brown spotted with white; face white mixed with brown edged with black; rump brown with pale bands; tail and wings long.

Uralensis. Body whitish, with longitudinal brown spots in the middle of each feather. *Ural Owl.*

Inhabits mountains of *Ural* in *Siberia*; size of a hen.

Bill wax-colour; irids and eyelids black; orbits ash; rump white; tail long, wedged.

Accipitri-
ca. Body above yellowish, beneath yellowish-white, both sides with longitudinal blackish streaks, belly dotted with black; irids citron. *Caspian Owl.*

Inhabits near the *Caspian Sea*; size of the brown owl.

Bill black; wings beneath and vent white; quill-feathers outside

side yellowish, within white tessellate with black; tail rounded, shorter than the wings, blackish, barred with white, and whitish at the sides.

Javanica. Body cinereous, in a few places reddish with black and white spots; beneath dirty-white mixed with reddish and black spots. *Javan Owl*.

Novæ Seelandiæ. Irids yellow; body above brown spotted with white, beneath tawny. *New-Zealand Owl*.

2. Body brown, the feathers edged with tawny; tail brown with paler bars; orbits tawny.

Inhabits *New-Zealand*; 11 inches long: bill horny with a black tip.

Cayennensis. Body streaked with reddish and transversely waved with brown; irids yellow. *Cayenne Owl*.

Inhabits *Cayenne*; size of the screech owl. Bill horny; claws black.

Dominicensis. Body beneath rufous; breast a little spotted. *St. Domingo Owl*. Inhabits *St. Domingo*; resembles the brown owl: bill larger, stronger, more hooked.

Tolchiquatli. Irids pale yellow; body above variegated with black, pale yellow, white and tawny; beneath white. *New Spain Owl*.

Inhabits *New Spain*.

Bill, claws and lower wing-coverts black.

Chichilli. Body tawny variegated with brown and black; eyes black, eyelids blue. *Mexican Owl*.

Inhabits *New Spain*; size of a hen.

Acadica. Body above bright bay spotted with white; beneath dirty-white mixed with rusty. *Acadian Owl*.

Inhabits *North America*; 7 inches long.

Bill brown; irids yellow; crown with pale spots; orbits cinereous; toes brown.

* *Passerina*. Quill-feathers with 5 rows of white spots. *Little Owl*.

2. Smaller; eyes surrounded with white circles.

3. Larger; wings variegated with brown and yellow; chin white; 12 inches long.

Inhabits

Inhabits *Europe* and *North America*; 7—8 inches long; solitary; feeds on bats, mice and grasshoppers; builds in fir trees. Bill whitish-brown; head, back and wing-coverts pale brown with white spots; breast whitish variegated with rusty; tail barred with white; irids pale yellow.

Albifrons. Body rusty-brown, beneath paler; forehead white; quill-feathers barred with black and white.

White-fronted Owl.

Inhabits *North America*; 5 inches long.

Bill blueish tip with black; irids yellow; a semicircular white line behind the ears to the crown; lower part of the belly and legs cinereous; claws black.

4. LANIUS. Bill straightish, with a tooth on each mandible near the end, naked at the base: tongue jagged at the end.
Shrike.

The birds of this genus are generally noisy and quarrelsome; prey on small birds which they tear in pieces, sticking the fragments on thorns; nostrils generally round, covered with stiff bristles; toes divided to the origin, except the middle toe which is slightly connected to the outer; tail mostly wedge-shaped, the middle rising higher than the rest, and the sides doubled down.

Forked. Tail forked; frontal crest erect; body greenish-black.

Fork-tailed crested S.

Inhabits the *Cape*, *Madagascar* and *China*; 10 inches long. Crest sometimes wanting; tail long.

Ceruleus. Tail forked; body blueish-black; belly white.

Fork-tailed S.

Inhabits *Bengal*; 7½ inches long. Breast dusky-grey.

Malabari-cus. Body blueish-black; quill and tail-feathers black; outer tail-feathers long, without webs, except on the outer side near the end.

Malabar S.

Inhabits *Malabar*; 17 inches long; head sometimes crested.

Castaneus. Tail wedged; middle tail-feathers at the tip, outer ones entirely rusty; body above chestnut, beneath white.

Chestnut S.

Ten

Ten inches long: *bill, wings and legs black; front black-brown; crown, hind-head, nape and neck cinereous.*

Cristatus. Tail wedged; head crested; body reddish, beneath waved with tawny and brown. *Crested red S.*

Inhabits *Bengal*; 6½ inches long.

Bill horny; behind the *eyes* a black crescent; *tail* above rufous, beneath grey; *legs and claws* black; *crest* sometimes wanting.

Canadensis. Tail wedged; head crested; body reddish, beneath whitish. *Crested S.*

Inhabits *Canada*; 6½ inches long.

Bill and claws black; *crest* reddish; *cheeks* dusky with white spots; *throat and breast* yellowish-red; *belly* cinereous; *wing-coverts* black edged with white; *tail* black dotted with white.

Ludovicianus. Tail wedged, cinereous; body cinereous, beneath whitish. *Louisian S.*

Inhabits *Louisiana*; about 8 inches long.

Under the *eyes* a black band; 6 middle *tail-feathers* black, the rest white at the root and tip; secondary *quill-feathers* white at the tip.

Nergeta. Tail wedged, white at the tip; body cinereous, beneath whitish. *Grey S.*

Inhabits *Brazil, Surinam, Russia and Siberia*, in marshy places; 9 inches long; gregarious.

Iris light green; *wings and tail* blackish; *wing-coverts* black with dirty-white tips; primary *quill-feathers* black; outer *tail-feathers* white at the ends.

Curvirostris. Tail wedged; body white; back black; first 5 quill-feathers with a white spot. *Hook-billed S.*

Inhabits *Madagascar*; 10 inches long; lives on fruit.

Points of both *mandibles* reflected; *hind-head* greenish-black; greater *tail-coverts* obliquely spotted with white; *tail-feathers* in the middle within cinereous, without black, white at the tip; *legs* lead-colour; *claws* blackish.

Collaris. Tail wedged; body black, beneath white; first quill-feathers white at the base. *Collared S.*

Inhabits the *Cape*; 12 inches long.

Bill and head blackish; *tail-feathers*, except the 4 middle ones, white at the tips.

Lucionensis.

Lucionensis. Tail wedged; spot near the ears black; tail-feathers reddish, barred with brown at the tips. *Luzonian S.*

Inhabits *Luzonia*; $7\frac{1}{2}$ inches long.

Bill and body above grey-brown, beneath and on the sides reddish with white lines.

**Excubitor* Tail wedged, white at the sides; back hoary; wings black with a white spot. *Great S.*

2. Body white; legs yellowish; bill and claws blackish.

3. Lesser wing-coverts and shoulders reddish.

Inhabits woods of *Europe* and *North America*; preys on small birds, which it fixes on a thorn and tears to pieces; makes its nest of dry grass and feathers; lays 7 blueish eggs spotted with brown.

Bill and legs black; crown and neck hoary; body beneath white with pale brown arched lines; lesser wing-coverts black; tail-feathers, except the 2 middle ones, white at the tip; cheeks white, with a black transverse line from the base of the bill.

**Collurio.* Tail somewhat wedged; back grey; 4 middle tail-feathers uniform; bill lead-colour. *Butcher Bird.*

2. Body grey, beneath reddish with brown streaks; scapulars half white half black; 3 outer quill-feathers white at the base and tips, the outermost reddish-white above.

*3. Body above variegated with reddish-white and black, beneath reddish-white. *Woodchat.*

4. Base of the quill-feathers spotted with white.

5. Head black; tail long.

Inhabits *Europe*, 4, 5) *Senegal*; $7\frac{1}{2}$ inches long; builds in bushes and hedges; lays 6 eggs, with a circle of brown near the broad end; kills small birds by piercing the skull with its bill, and insects by transfixing them on the thorn of the floe tree; imitates the notes of other birds, that it may decoy them into its clutches.

Antignus. Tail long, wedged; body above yellowish-rufous, beneath white; head, bill, wings, legs and upper surface of the tail black. *Antigua Shrike.*

Inhabits the *Philippine isles*; size of the butcher bird.

Bill large, upper mandible long, much hooked; wings short; 2 middle tail-feathers black, the rest reddish, beneath with a tawny tip.

Niger. Body black; tail somewhat wedged. *Black S.*

Inhabits *Jamaica*; 7 inches long; bill an inch.

Leverianus.

Leverianus. Tail long, wedged, black at the tip; bill, head, neck, middle of the breast and legs black; the other parts white. *Magpie S.*

Inhabits *South America*; 10 inches long.

Greater wing-coverts and secondary quill-feathers white at the edge; 2 middle tail-feathers long again as the rest, all of them black with white tips.

Atricapillus. Tail wedged, and with the neck, crown, shoulders and wings black; body above mouse-colour, beneath blueish-ash. *Surinam S.*

Inhabits *Surinam*; 5 inches long.

Wings short; wing-coverts and secondary quill-feathers edged with white; tail-feathers, except the 2 middle ones, white at the tip.

Pomernus. Body above black, beneath white; hind-head and back of the neck dark rusty surrounded with black; 2 spots on each side the wings and rump white. *Pomeranian S.*

Inhabits *Pomerania*.

Bill, legs and wings black; 8 primary quill-feathers white at the base; 2 outer tail-feathers white, next 2 or 3 on each side whitish from the base to the middle, and tipped with white.

Tyrannus. Body cinereous, beneath white; crown black, with a longitudinal tawny streak. *Tyrant S.*

2. Body above brown-grey, beneath white, breast ash.

3. Head black; tail black tipped with white.

4. Above lead-colour, beneath white.

Inhabits *America*; 8 inches long; builds in hollow trees; fierce, audacious; fixes on the backs of eagles and hawks, making a continual chattering noise till they forced to retire.

Bill, legs and claws blackish-brown; irids brown; tail brown edged with rufous.

Schach. Body yellowish; front and wings black. *Chinese S.*

Inhabits *China*; size of the last.

Head and neck on the upper part grey, neck beneath dull reddish-white; back and belly reddish; quill-feathers black, the first white at the base, the secondary whitish at the tip.

Pitangua. Body black, beneath yellow; crown with a tawny streak; band over the eyes white. *Brasil S.*

Inhabits *Brasil*; 9 inches long.

Behind

Behind and beneath the eyes a black spot; chin white; feathers of the body above edged with yellow; wings beneath yellow; tail brown with a rufous edge, beneath olive.

Rufus. Body rufous, beneath white; head greenish-black.

Rufous S.

Inhabits *Madagascar*; 8 inches long.

Bill lead-colour; legs and claws horny; tail rufous edged with brown; neck greenish-black, of the female grey on the fore-part.

Barbarus. Black, beneath red; crown and thighs tawny. *Barbary S.*

Inhabits *Senegal*; 9 inches long.

Bill, wings, tail, feet and claws black; head, neck, vent, and lower wing-coverts yellow.

Sulphuratus. Brown, beneath yellow; head blackish surrounded by a whitish band. *Yellow-bellied S.*

Inhabits *Cayenne*; 9 inches long.

Chin and throat white; legs grey; bill and claws blackish; wings and tail brown edged with rufous.

Cayanus. Cinereous; head, tail and primary quill-feathers black.

Cayenne S.

2. A longitudinal black streak down the middle of each feather.

3. Front yellowish; smaller size.

Inhabits *Cayenne*; 8½ inches long.

Bill red at the base, black at the tip; feet cinereous; claws black; 3) belly grey without spots; sides of the head with a reddish spot.

Aurantius. Tawny-yellow; chin, throat and breast reddish. *Orange S.*

Inhabits *Cayenne*; 7 inches long.

Head above the eyes and nape black; wings and tail brown; bill black; claws pale.

Senegalus. Grey, beneath whitish; crown and band of the eyes black; tail-feathers black tipped with white. *Senegal S.*

Inhabits *Senegal*; near 9 inches long.

Quill-feathers rufous on the outer side; tail-feathers 6, 6, with slight brown bands and uniform tips.

Madagascarensis. Cinereous, beneath whitish; lores black; tail-feathers reddish. *Madagascar S.*

Inhabits *Madagascar*; hardly 5 inches long.

Vol. I. — A 2

A black

A black spot each side between the nostrils and eyes; upper wing-coverts rufous; tail-feathers greater part rufous; male with black chin and throat.

Emeria. Grey, beneath white; temples and rump red. *Bengal S.*
Inhabits *Bengal*; $5\frac{1}{2}$ inches long.

Bill ashy-brown; irids whitish; crown and hind-head black; belly and upper tail-coverts red; each side the neck 4 black curved spots; tail pale brown; feet and claws black.

Bicolor. Blue, beneath white; frontlet black. *Blue S.*
Inhabits *Madagascar*; $6\frac{1}{2}$ inches long; feeds on insects.

Bill, head, margin of the quill-feathers, 2 middle tail-feathers, and outer margin of the 4 next blue; feathers surrounding the bill, quill-feathers, except the base, outer tail-feathers, legs and claws black; female beneath dirty-white; tail slightly wedged.

Leuco-rhyncos. Body above blackish, beneath whitish; bill, breast, belly and rump white. *White-bellied S.*

Inhabits *Manilla*; 7 inches long.

Wings, tail, legs and claws black, tail equal.

Ferrugineus. Body above black-brown; throat and breast dirty-white; belly ferruginous. *Rusty S.*

Inhabits the *Cape*; 9 inches long.

Bill lead-colour; tail dusky-brown; legs black.

Tabuensis. Body above olive; chin and breast cinereous; belly yellowish-brown; tail and legs brown. *Tabuan S.*

Inhabits *Friendly Islands*; near 9 inches long.

Bill brown; crown greenish; temples olive-brown; wings black on the outer edge; secondary quill-feathers black-brown edged with dirty-white.

Pacificus. Black; head and neck verging to greenish; belly and tail more dusky. *Pacific S.*

Inhabits *South Sea Islands*; 11 inches long.

Bill dusky, $\frac{3}{4}$ of an inch long; feathers of the head and neck very narrow; tail 3 inches long; toes divided to the base, the middle one very long.

Septentrio-nalis. Bill black; legs lead-colour; body above brown; chin and breast cinereous; belly and vent brownish. *Northern S.*
Inhabits

Inhabits *North America* ; near 8 inches long.

Nostrils rounded, small ; at the base of the upper *mandible* 5 or 6 black bristles ; 4 middle *tail-feathers* brown, the rest within white at the tip, all 2 inches long : *legs* short ; *claws* strong, brown.

Pileatus. Head black, crested ; body cinereous ; throat and breast black ; wing-coverts barred with white ; tail tip with white. *Black-capped S.*

Inhabits *Cayenne* ; 6 inches long.

Female without crest ; crown blackish ; throat and breast cinereous.

Viridis. Head, wings and body above dusky-green, beneath white ; tail black. *Green S.*

Inhabits *Madagascar* ; near 6 inches long.

Wings long ; 2 middle *tail-feathers* dusky-green, the rest black at the outer edge ; *legs* and *claws* black.

Leucocephalos. White ; body above greenish-black ; head, neck and under parts of the body white. *White-headed S.*

Inhabits *Madagascar* ; 8 inches long.

Tail above greenish-black, beneath black ; *bill*, *legs* and *claws* lead-colour.

Dominicanus. Black ; belly and rump white. *Dominican S.*

Inhabits *Philippine Islands* : larger than a sparrow ; flies very swift ; is bold, and troublesome to crows.

Bill ash, stout, conic, bristly at the base.

Panayensis. Bill and legs black ; head, throat, breast and belly red ; crown, wings and tail brown. *Panay S.*

Inhabits the *Island Panay* ; 7 inches long. *Irids* fiery.

Albus. White ; bill, tail, legs and greater part of the wings black. *White S.*

Inhabits *Panay* ; nearly twice as large as the last.

Primary quill-feathers with a white band.

Varius. Body above ashy-brown ; chin and breast yellow-buff ; belly, rump and vent dirty brownish-white ; interscapulars white ; tail and wings brown. *White-shouldered S.*

Inhabits *Brasil*.

Bill and *legs* black ; *front* and *cheeks* with paler spots.

- Naevius.* Body above black, beneath cinereous; all the wing-coverts with an oblong white spot. *Spotted S.*
 Inhabits Cayenne; 6 inches long.
 Bill and legs black; some of the feathers on the fore-part of the back tipped with white; quill-feathers edged with white; tail-feathers white at the tip.
- Obscurus.* Body above dusky-black, beneath white; over each eye a white line. *Dusky S.*
 Inhabits America? size of the last.
 Bill horn-colour; wings and tail more dusky than the body; legs brown.
- Fuscus.* Body above brown, beneath white; lores, tips of the secondary quill-feathers, and edges of the primary yellowish. *Brown S.*
 Bill horn-colour, black at the tip; legs black.
- Ruber.* Red; wings and tail with eye-like spots, black at the tips. *Red S.*
 Inhabits Surinam.
- Americanus.* Black; spot on the first quill-feathers, checks and chin white; breast and belly cinereous. *American S.*
 Inhabits North America.
 Tail long; middle tail-feathers black, the rest white at the tip; primary quill-feathers with a white spot; the ridge of each wing with a white spot.
- Minor.* Cinereous; chin white; breast and belly rosy; front, line over the eyes, and tail black. *Lesser S.*
 Inhabits Italy, Spain and Russia; resembles the grey S.
 Quill-feathers black, the primary with a white spot near the base, the secondary white at the tip; outer tail-feathers white.
- Nootka.* Tail rounded; body above black, beneath white; crown black; collar white. *Nootka S.*
 Inhabits Nootka Sound; 7 inches long.
 Bill and legs black; above the eyes a white line reaching to the nape, and a black one beneath the nape; lesser wing-coverts black, greater white; first quill-feathers dusky edged with yellowish-brown, the secondary black edged and tipped with white; tail-feathers black, the 4 outer white at the tips.
- Melanotus*

- Melanoccephalus.* Bill, head and chin black; body olive, beneath paler; tail with a broad black band, yellow at the tip.
Black-headed S.
Inhabits *Sandwich Isles*; 6 inches long. Legs dusky.
- Brachyurus.* Top of the head rusty-grey; eyebrows white; a black band from between the eyes to the ears; body above ashy-grey, beneath yellowish-white; tail rounded. *Short-tailed S.*
Inhabits *Hungary*; size of *L. collurio*.
Rump rustyish; chin and vent nearly white; wings blackish, the coverts grey at the tip; tail-feathers 10, brown-grey, and except the middle ones white at the tip.
- Boulboul.* Black; breast and belly tinged with ash; wings brown, with 2 white bands.
Inhabits *India*; size of a field-fare. Bill and legs yellow.
- Phoenicurus.* Body above reddish-grey, beneath yellowish-white; tail long, rounded, and with the rump bright red; orbits crossed with a black band. *Red-tailed S.*
Inhabits rocky places on the river *Onon*; size of the last.
- Doliatus.* Tail rounded; body closely varied with black and white lines. *Pied S.*
Inhabits *Cayenne*; 6½ inches long.
Bill dusky; legs and claws brown; each feather with black and white bands, those on the head long, white, tipped with black, which when erected have the appearance of a crest; wings and tail black, with transverse white spots.
- Jocofus.* Tail rounded; body grey; lower eyelid purple; vent blood red. *Jacose S.*
Inhabits *China*; 7½ inches long.
Crown black; temples, chin and neck white; belly whitish; tail brown; 4 outer tail-feathers tipped with white; legs and claws black; bill straightish, notched each side near the point.
- Fauflus.* Grey, beneath rusty; a white line behind the eyes; tail rounded. *Wreathed S.*
Inhabits *China*; size of a field-fare.
Bill and legs pale; wings rounded; quill-feathers brownish, grey at the edges, and marked with light brown lines crossing each other; tail brown, with like lines.

ORDER

ORDER II. PICÆ.

Bill somewhat compressed, convex.

5. PSITTACUS. *Bill* hooked; upper mandible moveable, (mostly) covered with a cere; *nostrils* rounded, placed in the base of the bill: *tongue* fleshy, obtuse, entire: *feet* formed for climbing.

Parrot.

This is a noisy, gregarious, imitative tribe, very docile and long lived; feed chiefly on nuts, acorns and seeds; they climb with the bill, and when angered erect the feathers; *head* large; *crown* flat, sometimes crested; *legs* short; *feet* used like hands to convey any thing to the mouth; breed in hollow trees without forming a nest, and lay 2 or 3 white eggs.

A. Tail long, wedge-shaped.

Macao. Red; quill-feathers above blue, beneath rufous; feathers of the shoulders variegated blue and green; cheeks naked, wrinkled. *Red and Blue Macaw.*

Inhabits *South America*; above a yard long; lives in palm woods, and feeds on the fruits of the palm; when young may be easily tamed; flesh hard, insipid, but sometimes eaten.

Body scarlet; upper mandible white, lower black; *temples* white; *wing-coverts* generally yellow; *tail* long, red, the feathers blue at the sides.

Aracango. Pale scarlet; scapular feathers yellow tipped with green; quill-feathers above blue, beneath rufous; cheeks naked, wrinkled. *Red and Yellow Macaw.*

Inhabits *Guiana, Brasil* and *Jamaica*; size of the last.

Tail-feathers above scarlet mixed with violet, beneath dusky red, 2 middle ones both sides dusky-red on the upper half.

Militaris. Green; wings blue; front and tail red; cheeks mostly naked, with feathered lines. *Military Macaw.*

Bill black; *rump* and tips of the *tail-feathers* blue.

Ararauna.

Araucana. Above blue, beneath yellow; cheeks naked, with feathered lines. *Blue and yellow Maccaw.*

2. Tail long; cheeks naked.

Inhabits *Jamaica, Guiana, Brasil* and *Surinam*; size of the last. Tail of the *female* yellow, *male* red; *eyelids* ferrate with black papillæ; *temples* naked, white, striped with feathered spots of a blueish-black colour; *legs* blackish-ash.

Hyacinthi. Violet-blue; head and neck paler; chin and orbits yellow, naked. *Hyacinthine Maccaw.*

Nearly the size of the former; *bill* large, black; *wings* edged with greenish; *legs* blackish-ash.

Makawan. Above dusky-green; head green mixed with blue; chin, throat and upper part of the breast reddish; lower part of the breast and belly green; rump red-brown. *Parrot Maccaw.*

Inhabits *Cayenne* and *Guiana*; 18 inches long; migrates.

Cheeks naked; *tail* 9 inches long, and with the *wings* above dusky, beneath yellowish-green.

Ater. Black, with a green tinge; *bill* and *eyes* red; *legs* yellow. *Black Maccaw.*

Inhabits interior parts of *Guiana*, on the steril tops of rocks and dry mountains.

Obscurus. Brown; cheeks red, naked; crown varied with blackish and ash; tail cinereous. *Obscure P.*

Inhabits *Africa*; size of a magpie.

Bill, *frontlet*, *legs* and *claws* black; *orbits* white; *irids* yellow; *crown* and upper surface of the *wings* black; *belly* cinereous.

Nobilis. Green; cheeks naked; shoulders scarlet. *Noble P.*
Inhabits *Surinam*; size of a turtle-dove; *face* naked, white.

Severus. Green; cheeks naked; quill and tail-feathers blue, beneath purplish. *Brasil Green Maccaw.*

2. Dusky-green; front brown; crown greenish-blue.

Inhabits *Jamaica, Guiana* and *Brasil*; 17 inches long.

Bill, *claws* and lines of the *cheeks* black; *irids* golden; *front* purplish-chestnut; *crown* blue; *tail* above green, blueish towards the tip; *legs* brown.

Impatris. Green; cheeks naked; shoulders scarlet; *bill* purplish. *Gingi P.*
Inhabits

Inhabits *Gingi* in *India*; 21 inches long.

Orbits naked, reddish; *body* above deep olive-green, beneath pale green mixed with yellowish; *chin* and *throat* ashy; *tail* and *wings*, except the upper coverts which are red, green; *legs* reddish; *claws* black.

Japonicus Green; beneath and lateral tail-feathers red; quill-feathers blue. *Japonefe P.*

Inhabits southern parts of *Japan*.

Tail longer than the body; 2 middle tail-feathers green, with white shafts, the rest red, with black shafts; *bill* and *irids* red; spot before and behind the eye and space between the shoulders blue; *chin* rusty-red; *body* beneath with longitudinal black lines; *legs* and *claws* black.

Amboinen- Scarlet; back blue; wings with a green spot. *Amboina P.*
fis.

Inhabits *Amboina*; 15½ inches long.

Bill, *legs* and *claws* red, *bill* black at the tip; lower tail-coverts violet in the middle; 2 middle tail-feathers violet-brown, 9½ inches long, the 2 outer hardly 6 inches long, red at the inner edge.

Cyanoc- Green; head and chin blue. *Blue-headed P.*
phalus.

Inhabits *India*; 11½ inches long.

Upper mandible yellow, somewhat cinereous at the tip, lower colour of the tip; area of the eyes naked, yellowish; *body* yellowish-green beneath; *chin* violet verging to blue; sides of the neck yellow; wings beneath cinereous; *tail* beneath yellowish-ash; *legs* blueish; *claws* grey.

Hæmato- Body above green; throat and breast orange, the feathers
tus. edged with blue; belly and tail green. *Red-breasted P.*

2. Breast red varied with blue; head, chin and middle of the belly blue.

3. Resembles 2); whole of the belly blue.

4. Scapulars spotted with red and yellow.

Inhabits *Amboina* and *New Holland*; 10—15 inches long.

Bill yellowish-white, 2) reddish-white, 3) red with a yellowish cere; frontlet and part of the neck blue; hind-head greenish.

Atricapil- Above blue; chin, throat and breast red; belly and vent
lus. green; crown black; collar green and red.

Black-crowned P.

Inhabits the *Molucca Isles*; 14 inches long.

Wings

Wings and upper tail coverts blue, lower green varied with red; tail above green, beneath red edged with black.

Tabuenfis. Head, neck, breast and belly purple; back and wing-coverts green; crown terminated by a lunular blue mark; first quill-feathers and greater part of the tail blue. *Tabuan P.*

Inhabits *Friendly Islands*; 19 inches long.

Bill black; lower mandible surrounded at the base with green feathers; spurious wings blue; secondary quill-feathers green edged with blue; 2 middle tail-feathers blue, 8 inches long, edged and tipt with green, the rest blue with black shafts; legs dusky.

2. Green; head, neck, breast and belly scarlet; neck terminated by a lunular blue mark; wings green; rump blue; tail deep blue.

Inhabits *New South Wales*; wing-coverts crossed by a light yellowish-green bar; legs cinerous.

Papuenfis. Head, neck and breast red; hind-head with a blue spot and two black crescents; wings and part of the back green; rest of the back, belly and tip of the tail red.

Papuan P.

2. Belly crossed by a black stripe edged with green; breast purplish.
3. Scarlet; tail shorter, hinder part of the back blueish-black; a yellow spot between the wings.
4. Middle of the belly green.

Inhabits *Papua*; 16 inches long.

Bill red; wings short; hind part of the back with a longitudinal stripe blue in the middle; each side of the wings an oblong blue spot; two-thirds of the tail green, rest yellow; legs red.

Borneus. Red; quill and tail-feathers green at the tips; wings with a blue spot; orbits brown. *Borneo P.*

Inhabits *India*; 9½ inches long.

Bill orange; orbits naked; quill-feathers with blue and green dots; 2 outer tail-feathers inclining to green; lower tail-coverts red edged with blue; legs brown.

Indicus. Scarlet varied with brown and violet; upper part of the head and neck, breast, and stripe behind the eyes violet; greater quill-feathers tipt with pale brown; lesser and tail-feathers violet brown. *Indian P.*

Vol. I. — B b

Inhabits

Inhabits *Amboina*; near 11 inches long.

Bill reddish with a black tip; legs and claws brown.

Elegans. Head, neck, and body beneath red, above brown; interscapulars pale blue, mixed with red; tail greenish-brown, tip with white. *Beautiful P.*

2. Wings, tail and body above green.

Inhabits *Molucca Islands*, 15, 2) 12 inches long.

Bill yellowish-brown; 2) lead-colour, yellow at the tip.

Guebienfis. Bright red; quill-feathers black with a transverse red band; tail brownish-red. *Gueby P.*

Inhabits *Gueby*; 9½ inches long.

Bill and irids flame-colour; a purple ring from the neck towards the breast; interscapulars, breast and belly purple.

Ianthinus. Head and body above brown, beneath violet; shoulders blue; tail and wings green and red. *Violet P.*

Inhabits near the *Amazon*.

Bill black; irids golden-yellow.

Variegatus. Scarlet; nape, beginning of the back, breast and belly purple blue; wings above red, beneath yellow; tail green.

Variegated P.

Inhabits *India*; 10—11 inches long.

Bill dusky; hind part of the belly verging to greenish-black; tail-feathers within red at the base, without blue towards the tip.

Pennantii. Scarlet; fore-part of the back black waved with scarlet; sides and throat blue; quill-feathers each with a white spot. *Pennant's P.*

Inhabits *New South Wales*; 15 inches long.

Wing-coverts blueish-green; outer tail-feathers tip with white; female with the crown blood-red; back and belly green; thighs and vent red.

2. Middle of each wing with a pale band.

Chin, wings and tail blue; under coverts of the wings black; lower parts of the thighs blue; legs dusky; claws black.

Eximius. Head, throat breast and vent crimson; back black waved with yellow-green; wings and tail blue. *Nonpareil P.*

Inhabits *New Holland*; nearly the size of the last.

Rump and 2 middle tail-feathers green; quill-feathers dark-brown; legs lead-colour.

Gloriosus.

Gloriosus. Bright blood-red; back-feathers edged with black; chin, wings and tail blue. *Splendid P.*

Inhabits *New Holland*; 16 inches long.

Body beneath paler; shoulders of the wings black; wing-coverts blue, the secondary tinged with green; primary quill-feathers black, secondary blue, rump red; 2 middle tail-feathers green; bill pale; legs and claws ash; female less brilliant; back olive-green.

Nova Gui. Black with a bright blue tinge; tail beneath red; orbits naked, brown. *New Guinea P.*

Bill and legs blackish; irids with 2 circles, the outer blue, inner and lesser brownish-red; bill and legs blackish.

Javanicus. Scarlet; orbits naked silvery; head crested; chin grey; throat and breast rosy; shoulders and wings mixed red and green; 2 middle tail-feathers scarlet, the rest rosy mixed with green and tip with blue.

Javan P.

Inhabits *Java*; size of a lark.

Bill grey; cere whitish; eyes black.

Jandaya. Above green, beneath yellow; head and neck yellow.

Yellow-headed P.

Inhabits *Brazil*.

Bill, legs and claws black; orbits naked, white; irids golden; hind-part of the belly green.

Solstitialis. Yellow; wing-coverts green; orbits red; lateral tail-feathers blue without. *Angola P.*

Inhabits *Angola*; 11½ inches long.

Bill greenish; cere pale ash; irids yellow; back with yellow-green spots; remotest wing-coverts blue at the edge; 6 middle tail-feathers each side yellowish-green; legs and claws reddish.

Pallidus. Yellow; wings whitish slightly tinged with rosy, and a cast of greenish, according to the direction of the light. *Pale Parrakeet.*

Inhabits *Andalusia*; about 7 inches long. *Nat. Miscel.* 258.

Guarouba. Yellow; greater quill-feathers green.

Brazil yellow P.

Inhabits *Brazil*; 11 inches long.

Bill grey; eyes black; tail very long.

2. Yellow; head reddish; neck orange; wings green.

B b 2

Inhabits

Inhabits *New Spain*.

Bill red; head pale; neck orange-red; upper wing-coverts green varied with red and orange.

Carolinensis. Green; head, neck and knees yellow. *Carolina P.*
Inhabits *Guiana*, and migrates into *Carolina* in the mulberry

season; destructive to orchards; builds in hollow trees in swampy places; does not easily learn to speak.

Bill yellowish-white; front, ridge of the wings and ring round the knees orange; head and neck yellow; legs white.

Alexandri. Green; collar and crest red; chin black. *Alexandrine P.*

2. Collar rosy; hind-head violet; legs ash.

3. Collar purple; throat and breast pale rosy.

4. Collar double.

5. Head, chin and tail blue.

6. Head mixed blue and yellow; temples black; throat and breast reddish; tail yellowish.

Inhabits *Asia*, *India*, and *Africa*; size of a pigeon.

Bill more or less red; 2) upper mandible at the tip and lower black, 3) upper mandible orange lower black, 6) lower yellow, cere black; irids yellow; orbits naked, flesh-colour; wings with a purplish spot, beneath pale ash; tail edged with blue, beneath pale yellow, 4) pale ash, 5) above blue, beneath yellow; legs dusky, 6) greenish-grey.

Pertinax. Green; cheeks tawny; quill and tail-feathers hoaryish.

Yellow-faced Parrakeet.

Inhabits *America*; migrates in flocks to the north; feeds on seeds and fruits, and builds in large ant-hills; 13 inches long.

Bill cinerous; irids, front and sometimes the hind-head orange; primary quill-feathers blue at the outer-edge; breast and belly yellowish-green; vent yellow.

Leverianus. Pale-green; head and neck yellow; quill-feathers and tips of the tail-feathers blue; rump crimson. *Leverian P.*
Inhabit *Southern Asia*; middle size.

Smaragdinus. Shining green; hind-part of the belly, rump and tail rusty-chestnut. *Emerald P.*

Inhabits near the straits of *Magellan*; 13 inches long.

Bill and legs dusky; tail green at the tip.

Canicula. Green with a red front; hind-head and outer quill-feathers blue; orbits tawny. *Red-fronted P.*

Inhabits

Inhabits *South America*; size of a large thrush.

Body above greenish-yellow; bill blackish; eyes black; legs tawnyish; quill-feathers on the outer-edge greenish; tail long.

Æruginosus. Green; crown and first quill-feathers blue; orbits ash. *Brown-throated Parakeet*.

Inhabits *America*; 10 inches long.

Bill, cere, legs and claws ash; irids yellowish-brown; body beneath yellowish-green; frontlet, cheeks, chin and throat grey-brown mixed with yellow; tail yellowish beneath, shorter than the body.

Rufirostris. Green; bill and legs red; tail-feathers blueish at the tips; orbits flesh-colour. *Red-billed Parakeet*.

2. Bill, legs and claws whitish-red; orbits cinereous.

Inhabits *South America*; 12 inches long; is easily taught to speak.

Irids orange; legs and claws whitish.

Ornatus. Yellow-green; hind-head, chin and breast red; crown and auricles blue; orbits cinereous. *Orange-billed P.*

Inhabits *India*; 8 inches long.

Bill pale orange; cere brownish; irids orange; crown and spot behind and above the eyes blackish-blue; tail beneath reddish; legs and claws cinereous.

Jacquima. Green; quill-feathers brown at the tip; orbits tawny.

Inhabits *Chili*; lives in flocks; feeds on buds of trees and plants; flesh savoury.

Guianensis. Green; cheeks spotted with red; lesser wing-coverts scarlet, greater yellow; quill-feathers beneath pale yellow, with a blackish margin towards the tip.

Pavouane Parrot.

Inhabits *Guiana* and *Caribbee Islands*; 12 inches long.

Cere and bill whitish, base of the bill ash; legs grey; claws blackish.

Marginalis. Green; wing-coverts black; the lesser edged with yellowish-brown, the greater with blue.

Varied-winged P.

Inhabits *Luzonia*.

Frontlet shining-green; bill large flesh-colour; irids white; crown blue; body above grass-green, beneath yellowish-green; legs blackish.

Sonnerati.

Sonnerati. Green; collar blue; spot on the origin of the wings red.
Blue-collared P.

Inhabits *Luzonia*.

Bill and irids red; head, neck and belly greyish-green; wings and back grass-green; 2 middle tail-feathers grass-green, the rest grey-green; legs blackish-grey.

Pondicherrianus. Green; front and stripe from the mandible each side to the chin black; face white and blueish; breast purplish-blue; tail beneath straw-colour.

Mustacho Parrakeet.

2. Head from the base of the bill to the eyes chestnut; a brown line from the nostrils to the eyes; chin black extending back like a beard; nape red.

Inhabits *Pondicherry*; 11 inches long.

Wing-coverts varied with yellow; bill red; crown green; legs dusky, 2) quill-feathers edged with blue.

Erythrocephalus. Green; head red mixed with blue; chin black; collar black and pale green. *Blossom-headed Parrakeet*.

2. Crown and cheeks rosy; hind-head and two middle quill-feathers blue above, the rest blue at the edge.
3. Head, chin, throat, breast and fore part of the belly peach-blossom colour.
4. Colour verging to yellow; area of the eyes and hind-head rosy.

Inhabits *India* 11, 2) 10, 3) 12, 4) 16 inches long.

Bill red; lower mandible in 2) and 3) black, in 2) the upper yellow; cere in 2) brownish, 3) with the orbits ashy, and in the last a green spot on the front, and a black line from eye to eye; collar wanting in 4); wing-coverts with a red spot; tail on the inner edge in 2) beneath yellow, in 4) inclining to blue; legs and claws cinereous.

Bimaculatus. Green, with 2 oblong black spots on the neck and a large sulphur-colour spot on each wing. *Spot-necked P.*

Bill pale blood-red; forehead, chin, throat, cheeks and sides of the neck orange-yellow; chin and throat each side with a large oval black spot.

Plumbeus. Green; bill, legs and orbits lead-colour; front, cheeks and chin brown; edges and tips of the tail-feathers blue.

Brown-fronted Parrakeet.

Inhabits

Inhabits tropical regions of *America*; $11\frac{1}{2}$ inches long.
Iris chestnut; *crown* blueish; *quill-feathers* edged with blue.

Bubalinus. Green above, yellowish-green beneath; front buff.

Buff-fronted Parakeet.

Inhabits *Cayenne*; 10 inches long.

Bill dusky; *crown* and *quill-feathers* blue; *legs* dusky-red.

Olivaceus. Olive; hind-head with a blueish spot; wings varying with blue green and orange. *Lace-winged Parakeet*.

Inhabits *Luzonia*; above 11 inches long.

Bill red; middle of the *wings* blue; *tail* one third the length of the body, the wings when folded reaching to its middle; *legs* dusky.

Dubius. Green; neck reddish; orbits yellow, naked. *Dubious P.*

Bill, *legs* pale horn-colour; *quill-feathers* and 4 middle *tail-feathers* tipped with blue, outer *tail-feathers* tipped with yellow; 9 inches long.

Chrysogastr. Green; belly orange; bill greenish. *Orange-bellied P.*

Greater *wing-coverts* outside blue, within each marked with a white spot; 4 outer *tail-feathers* each side tipped with yellow; *legs* greenish.

Virescens. Greenish; lesser *wing-coverts* at the base and within white, without and at the tip yellow; 7 first *quill-feathers* within black edged with white, 7 next white edged and tipped with yellow. *Yellow-winged Parakeet*.

Inhabits *Cayenne*; 8 inches long; is numerous, docile, not shy, and feeds on the flowers of the *erythrina coralliodendron*.

Bill and *cere* whitish; farthest *wing-coverts* greenish-blue, nearest the body sulphurous beneath; most of the *quill-feathers* without and at the tip yellow, within yellowish white; 4 nearest the body green; *tail-feathers* yellowish at the inner edge; *legs* grey.

Versicolor. Green; head and chin brown, the latter waved with tawny; wings blue with a flame-colour bar; belly pale blueish-purple with brown waved lines.

Waved Parakeet.

Inhabits *Cayenne* and *Surinam*; size of the last.

Bill, *legs* and *claws* black; *iris* flame-colour; *frontlet* above slate-colour, beneath sky-blue; *tail* with a longitudinal lilac line, beneath red-brown.

Squammosus.

- Squammo-*
fus. Green; feathers of the head, neck and breast edged with orange. *Scaly Parrakeet.*
Inhabits *Cayenne*; $8\frac{1}{2}$ inches long.
Shoulders scarlet; *rump* and middle of the *belly* blood-red; *bill* and *legs* dusky; *orbits* pale, naked.
- Incarnatus.* Green; bill, legs and claws *carnation*; cere and orbits whitish; chin and wing-coverts red. *Red-winged Parrakeet.*
Inhabits *India*; $8\frac{1}{4}$ inches long.
Irids chestnut; *tail* $4\frac{1}{2}$ inches long; *bill* pale horn.
- Murinus.* Olive; face, chin and breast mouse-colour; quill-feathers green. *Grey-breasted Parrakeet.*
Inhabits *Montevideo*; 10 inches long; easily tamed.
Bill and *legs* grey; *tail* five inches long.
- Cornutus.* Green; head scarlet, with 2 long feathers standing out like horns; collar and rump straw-colour; outer edge of the quill and tail-feathers blue. *Horned P.*
Inhabits *New Caledonia*; 11 inches long.
Bill and *legs* black-blue; *temples* orange; *irids* golden; *wing-coverts* within and at the tip dusky; *tail* beneath black.
- Caledonicus.* Olive; crown greenish-yellow; tail-feathers whitish at the tip, the outer edges of the four outermost pale blue. *Caledonian P.*
Inhabits *New Caledonia*; 12 inches long.
Bill blueish, pale at the tip; *frontlet* above red, beneath blue; *body* above inclining to green, beneath to yellow; *legs* black-blue.
- Nova Seelandia.* Green; front purple; crown greenish-tawny; a red stripe from the base of the bill through the eyes; tail-feathers blueish, the 2 middle ones edged with green; rump red. *Red-rumped P.*
Inhabits *New Zealand*; 15 inches long.
Bill deep blue tip with black; a few feathers on the crown pale yellow, and on the middle of the back pale rusty-brown; *temples* pale green; *belly* ashy-green; first quill-feathers brown, secondary and spurious wings dusky edged with green and tip with pale rusty; *legs* black.
- Nova Hgl-landia.* Olive; crested head and chin yellow; behind the eyes a red spot; an oblique white band across the wings. *Crested Parrakeet.*

Pygmaus. Green; feathers tipped with greenish-yellow; quill-feathers within dusky. *Pigmy Parrakeet.*
Inhabits *Pacific Isles*; 6 inches long.
Bill whitish; cere dusky; legs lead-colour.

Agilis. Green; primary quill-feathers blueish with tawny coverts; tail hardly lengthened, beneath red; orbits cinereous. *Agile P.*
Inhabits *America*; 10½ inches long.
Bill and legs cinereous; irids chestnut; quill-feathers within black at the tip; 2 middle tail-feathers green, outer ones within more than half of the length red.

Sanguinolentus. Green; frontlet crimson; crown and outer edge of the wings deep blue; shoulders and wings beneath blood-red. *Red-shouldered P.*
Inhabits *New South Wales*; 10½ inches long.
Body beneath inclining to yellow; fore-part of the neck mixed with crimson; primary quill-feathers dusky edged without with yellow, 2 or 3 of the inner and vent pale red; tail-feathers near the rump chestnut, growing dull blue towards the extremity; bill and legs brown.

B. Tails short, equal at the end.

Coronatus. Green; crest plicate red tipped with blue. *Crowned Cockatoo.*
Inhabits *Guiana, Surinam*; 18 inches long.
Front yellow; crest scarlet tipped with bright blue; outer tail-feathers blue on the outer sides; vent red, the feathers tipped with blue.

Aterrimus. Black; crest large, paler; cheeks red, naked. *Black Cockatoo.*
Inhabits *New Holland*; more than a yard long.
Bill dusky-brown; legs black-brown.

Funereus. Black; middle of the tail straw-colour freckled with black. *Funereal Cockatoo.*
Inhabits *New Holland*; nearly as large as the last.

Banksi. Splendid black; crest small; head and wing-covers dotted with buff; outer tail-feathers scarlet in the middle, barred and tipped with black. *Bankian Cockatoo.*
Inhabits

Inhabits *New Holland*; size nearly of the last.

Bill large, deep brown; 2 middle *tail-feathers* black; *legs* brown.

2. Sides of the neck, chin and throat yellow.

Inhabits with the former; 22 inches long.

Feathers of the *crest* varied with yellow; sides of the *neck* variegated yellow and black.

3. Dusky-brown inclining to olive; tail, except the 2 middle feathers, crossed with a broad red bar.

Twenty-two inches long; lower part of the *back*, *wings* and *rump* glossy-black; *legs* and *claws* black.

Sulphureus. White; crest folding pointed, and with the spot beneath the eyes sulphur-yellow. *White Cockatoo*.

Inhabits *Molucca Islands*; 14½ inches long.

Bill and *cere* blackish; *irids* red; colour beneath inclining to sulphurous; *legs* black.

Galeratus. White; crest long folding pointed sulphur; base of the tail sulphur. *New Wales Cockatoo*.

Inhabits *New South Wales*; 2 feet 3 inches long.

Bill blackish; *orbits* feathered; *crown* behind the crest bald; *legs* blackish.

Philippinarum. White; crest folding, sulphurous, white at the tip; orbits yellowish-red; lower tail-coverts red dotted with white. *Red-vented Cockatoo*.

Inhabits *Philippine Islands*; 13½ inches long.

Bill white, generally cinereous at the base; *cere* grey; *orbits* yellowish-red; lower *crest-feathers* pale red; 2 middle *tail-feathers* white, the lateral ones within as far as the middle sulphurous; *legs* and *claws* lead-colour.

Moluccensis. White inclining to pale rosy; crest beneath red; lateral tail-feathers within from the base to the middle sulphurous. *Molucca Cockatoo*.

Inhabits *Molucca Islands*; more than 17 inches long.

Bill blueish-black; *cere* and *claws* black; *orbits* grey; *irids* red; *crest* 6½ inches long; *legs* lead-colour.

Cristatus. White; crest folding, yellow. *Yellow-crested Cockatoo*.

Inhabits *Molucca Islands*; 18 inches long.

Bill, *cere*, *irids*, *legs* and *claws* black; *orbits* naked, white; *quill* and lateral *tail-feathers* from the base to the middle with-

Inhabits *New Holland*; 12 inches long.

Bill pale; *crest* consisting of 6 slender feathers, 2 of which are near three inches long, the rest shorter; *legs* dusky; *female* head and body more tawny; *rump* and *tail* with transverse grey lines.

Formosus. Green; 4 middle tail-feathers barred with green and black, the rest with black and yellow. *New Wales P.*

Inhabits *New South Wales*; size of the last.

Wing-coverts green barred with black and yellow; *quill-feathers* green without, black within, with 2 yellow spots on the middle, except the 3 outer, which have a single yellow spot within; 2 middle *tail-feathers* 9, the rest 3 inches long.

Uhetanusi. Olive; head black-brown; rump dusky-red; wings and tail dusky. *Society P.*

Inhabits *Uhetea*; 10½ inches long.

Bill black-blue tipped with black; *feathers* edged with dusky beneath inclining to yellow; *legs* black.

Malicorlor. Green; head, chin and belly blue; fore-part of the breast red, hind-part and tail beneath yellow; collar white.

White-collared P.

Inhabits *India*; *bill* red; head with a white crescent.

Aureus. Green; cere and orbits blueish-carnation; crown golden; wing-coverts with an oblique blue stripe.

Golden-crowned Parrakeet.

Inhabits *Brazil*.

Bill black; *irids* orange; *chin* yellowish-green mixed with red; *legs* reddish; *claws* black.

Lineatus. Green; quill-feathers beneath brown, the inner edge pale.

Size of a turtle dove; colour beneath verging to yellow; wings beneath with narrow pale lines; tail longer than the body.

Continuus. Green; spot behind the eyes and front crimson; crown blueish. *Crimson-fronted Parrakeet.*

Inhabits *New Holland*; size of a turtle dove.

Bill tawny tipped with black; *legs* dusky.

Pacificus. Green; spot behind the eyes and each side of the rump red; front red; outer edge of the wings blue; tail beneath ash. *Pacific Parrakeet.*

Vol. I. — C c

2. Spots

2. Spots on the rump o; quill-feathers blue.
3. Rump and temples red.
4. Crown yellow.
5. Hind-head, spot below the eyes, and sides of the belly scarlet.
6. Crown blue; hind-head spotted with yellowish-green; shoulders edged with yellow.

Inhabits *Pacific Islands*; 12 inches long.

Bill silvery tip with black, 6) brown tinged with red at the tip; legs brown; claws black.

Palmarum. Green; bill and legs red; quill-feathers tip and edged with black. *Palm P.*

Inhabits *Tanna Island*, among palm trees; 8 inches long.

Colour beneath pale; belly and tip of the tail yellowish.

Australis. Green; crown blue, crested with long feathers; chin and middle of the belly red; thighs purple.

Blue-crested Parrakeet.

Inhabits *Sandwich Islands*; 6½ inches long.

Bill orange; front pale green; 2 middle tail-feathers green tip with yellow, the rest yellowish edged and tip with green; legs dusky; claws black.

Peregrinus. Green; on each wing a longitudinal brown spot.

Peregrine Parrakeet.

Inhabits *Pacific Islands*; 8 inches long.

Bill, legs and feet red.

Taitianus. Blue; feathers of the head long; chin and throat white; bill and legs red. *Otaheite Parrakeet.*

Inhabits *Otaheite*; 5 inches long; feeds on the fruits of the Banana; tongue fringed at the end; body beneath often white.

Cyaneus. Body entirely splendid full blue. *Blue Parrakeet.*

Inhabits *Otaheite*; probably a variety of the last.

Puffillus. Olive-brown; frontlet scarlet; tail-feathers within near the base scarlet. *Timid Parrakeet.*

Inhabits *New South Wales*; 7 inches long.

Bill blackish, circled at the base with scarlet feathers; body beneath paler; tail-feathers, except the 2 middle ones, on the upper half within scarlet; legs blue.

Pygmaus.

Cochinchinensis. Blue; front, nape, lower part of the neck, breast and middle of the belly scarlet. *Cochinchina P.*
Inhabits *Cochinchina*.
Bill yellow; wing-coverts quills and tail with a black cross bar; legs black.

Guineensis. Head and neck scarlet; eyebrows and breast yellowish; wings yellow-green tipped with blue; belly vent and under-part of the tail hoary tipped with scarlet. *Yellow-breasted Lory.*
Inhabits *Guinea*; 10 inches long.
Bill black; cere, chin and orbits white; claws black.

Paraguana. Scarlet; head, neck, vent, tail, shoulders and wings black. *Paraguan Lory.*
Inhabits *Brazil*? Bill cinereous; irids red.

Niger. Tail long, equal; body blueish-black; bill and orbits white. *Black P.*
Inhabits *Madagascar*; 13½ inches long.
Bill reddish; irids brown; legs flesh-colour; claws black.

Ceruleocephalus. Blue; belly, rump and tail green; crown yellow; quill and tail-feathers red. *Blue-headed P.*
Inhabits *Guiana*; 9 inches long.
Bill blackish; orbits naked, whitish; irids yellow; legs red-grey.

Varius. Varied with brown and blue; cheeks, chin and throat whitish; quill and tail-feathers dusky-brown the outer webs blue. *Variegated. P.*
Inhabits *South America*; above 5 inches long.
Bill and legs yellowish; claws black.

Violaceus. Violet, varied with mixed black and green; back dusky-green; greater quill-feathers black, the rest varied with yellow-green and red, with a rosy spot on their coverts. *Ruff-necked Parrot.*
Inhabits *America*; size of a hen.
Bill and orbits flesh-colour.

Fringillaria. Green; head blue; cheeks, chin, throat and spot on the belly white with a bloody hue; belly violet. *Finch P.*
Inhabits

Inhabits *South America* ; above 6 inches long.
Tail-feathers on the inner-side and tip, *bill* and *legs* yellow ;
claws brownish.

Choræus. Green ; beneath ash ; orbits carnation. *Chili P.*
 Inhabits *Chili* ; resembles in manners and food *P. jaguilma*.

Sinensis. Green ; under wing-coverts red, some of the greater and
 edge blue ; tail beneath brown. *Chinese P.*
 Inhabits southern *China*, *Amboina* and *New Guinea* ; size of
 a hen.
Cere o ; orbits covered ; lower mandible black, upper red,
 tipt with yellowish ; irids orange ; legs and claws black.

Macro- Green ; beneath inclining to yellow ; wings mixed blue
rhyncos. and green with black coverts. *Great-billed P.*
 Inhabits *New Guinea* ; 14 inches long.
Bill large, blood-red ; tail yellowish at the tip.

Nasutus. Green ; head and breast greenish-grey ; wing-coverts yellow.
Grifled P.
 Inhabits *China* ; 12 inches long.
Bill red, almost as large as the head ; irids blueish.

Grami- Green ; beneath olive ; front and crown blue ; tail beneath
neus. yellow. *Grass-green P.*
 Inhabits *Amboina* ; 16 inches long ; legs lead-colour.

Leucoc- Green ; quill-feathers blue ; front white ; orbits snowy.
phalus. *White-fronted P.*
 2. Throat red, the feathers edged with white ; belly purple ;
 quill-feathers blue on the outer webs.
 3. Head from the front to the neck white, the rest pale blue ;
 orbits and spurious wings red.
 4. Crown blueish-ash ; belly spotted with red.
 Inhabits *Martinico*, 2) and in *Jamaica* and *New Spain* ;
 size of a pigeon.
 All the feathers edged with brown or red ; head above and on
 the sides blue ; chin red, in 3, 4) green ; quill-feathers
 black, outer-edges blue ; tail-feathers equal, green, red at
 the base, tipt with yellowish, the outermost blue at the outer
 edge.

Green

in sulphurous; feathers of the neck lax flowing; crest 5 inches long, able to be erected.

Erythro-leucus. Cinereous; rump, quill and tail-feathers scarlet. *Red and white P.*
Bill and claws black; lower part of the back red; legs blackish.

Erythacus. Hoary; temples naked, white; tail cochineal. *Hoary P.*
 2. Wings red.
 3. Variegated with red.
 4. Red; head cinereous; cheeks naked; primary quill-feathers brown-ash.
Inhabits Africa; 20 inches long; very loquacious, modulating its voice in various tones, and repeating easily whatever it hears.
Bill black; cere white; irids yellowish-white; legs cinereous; claws black.

Cinereus. Entirely blueish-ash. *Cinereous P.*
Inhabits Guinea; larger than the last.

Meridionalis. Above greenish-ash, beneath bright-bay; orbits, crown, hind-head and neck cinerous; feathers tipped with brown. *Southern P.*
Inhabits New Zealand; 16 inches long.
Bill blueish-black; legs black.

Mascari-nus. Cinereous; frontlet beneath black; orbits naked, reddish; lateral tail-feathers whitish at the base. *Mascarine P.*
Inhabits Mascarine; 13½ inches long.
Bill, cere and legs reddish; crown and neck paler; claws grey.

Fuscus. Entirely brown-ash; 13 inches long. *Brown P.*

Garrulus. Red; orbits ash; cheeks and wings green; latter half of the tail-feathers blue. *Ceram Lory.*
 2. Scarlet; wings green and black; tail-feathers yellow, the latter half greenish.
 3. Shoulders spotted with pale yellow.
 4. Most of the wing-coverts dotted with blue.
Inhabits Molucca Islands; above 10 inches long.
Bill orange; cere ash; irids yellow; legs brown, 2) black; claws black; lesser and lower wing-coverts varied with yellow and green, 2) green, 3) yellow, then green, then green dotted

dotted with yellow; spurious wings violet; greater quill-feathers dusky-green, within scarlet, tip with ash; 2 middle tail-feathers green at the base, then red with green dots; tail in 2) the exterior part yellow tip with yellow-green, in 3) all the tail-feathers beneath yellow-red.

Domicella. Red; cap violet; wings green; shoulders and cheeks blue; orbits brown. *Blue-cap Lory*.

2. Cap blue; wings green; orbits black; collar yellow.

Inhabits *New Guinea, Molucca Isles*; 11 inches long.

Bill red, 2) yellowish; irids and crescent on the breast yellow; 2) back, rump and belly mixed white and rosy; 2) tail purple, the feathers varying with white and purple; 2) quill-feathers blue, the lesser and coverts yellowish-green; legs blackish; claws black.

Lory. Purple; cap violet; wings green; breast, cheeks and tail blue; orbits pale flesh-colour. *Violet-cap Lory*.

Inhabits *Philippine Isles*; above 10 inches long.

Bill and irids orange; cere cinereous; tail-feathers partly red, partly green, the outer violet at the extreme edge; legs blackish.

Punicus. Deep scarlet, beneath violet; lesser and under wing-coverts, quill-feathers within and underneath blackish-brown. *Crimson Lory*.

Inhabits *Amboina*: 11 $\frac{1}{2}$ inches long.

Bill red, sometimes black; cere and orbits blackish; irids orange; tail-feathers tip with dirty-red or orange; legs brown; claws black.

Ruber. Red; area of the eyes and quill-feathers black; spot on the wing and under tail-coverts blue; tail chestnut at the tip. *Molucca Lory*.

2. Shoulders, belly, vent, tips of the secondary quill-feathers and greater wing-coverts blue.

Inhabits *Molucca Isles* and *New Guinea*; 9—10 inches long.

Grandis. Red; beneath mixt red blue violet and green; nape violet; wings blue; tail tip with yellow. *Grand Lory*.

2. Above varied with brown and green, beneath blue; edge of the wings and their under coverts blue; tail chestnut.

Inhabits *Ceylon*; 13 inches long.

Bill black.

Coch.

Cerise. Green; head white; shoulders, some of the middle quill-feathers and tail-feathers within, at the base red.

Gerin's P.

Inhabits *Brazil*; size of the last.

Bill and legs pale; lesser wing-coverts red.

Ophrocephalus. Green; crown yellow; wing-coverts red; quill-feathers variegated with green, black, violet and red; 2 outer tail-feathers within red at the base. *Yellow-headed P.*

2. Crown with a yellow spot; bill ruddy.

2. Upper mandible blueish-green with yellow sides and a black spot at the tip, lower lead-colour, yellow in the middle.

Inhabits *South America*; 16—18 inches long.

Bill cinereous red at the base; irids yellow; legs lead-colour; claws black.

Barbadoensis. Green; orbits and front cinereous; crown, cheeks, chin, throat and lesser wing-coverts yellow, the greater blue; many of the primary quill-feathers without, violet, the rest from the base to the middle red and afterwards blue.

Ash-fronted P.

Inhabits *Barbadoes*; size of a pigeon.

Bill corneous; legs ash; claws black.

Luzonensis. Green; hind-head and rump blue; wings marked with black blue and red. *Manilla P.*

Inhabits *Luzonia*; 12½ inches long.

Bill scarlet tip with white; cere reddish; legs cinereous; claws blackish.

Astivus. Green slightly spotted with yellow; front blue; shoulders blood-red; orbits carnation. *Amazon P.*

2. Head and breast yellow; front and chin blueish; edges of the wings and vent red.

3. Lesser wing-coverts red.

4. Cap blue variegated with black; a yellow spot on the crown and each side below the eyes; chin blue.

5. Crown cheeks and chin yellow.

6. Pale green; front pale yellow; temples tawny.

7. Green; front blue; crown, cheeks, chin and middle of the belly yellow.

8. Green; head and neck yellow; shoulders red.

9. Green variegated with yellow; front blue; shoulders red.

Vol. I. — D d

Inhabits

Inhabits South America 2) Jamaica ; size of a pigeon.

Back sprinkled with tawny feathers ; face yellow ; front blue ; crown whitish ; tail-feathers paler at the tip, the 3 first red at the inner base, the first blue at the outer edge ; shoulders tawny or blood-red ; first quill-feathers black tip with blueish, within black, without green ; the anterior secondary on the outer side near the base red ; bill black at the tip, 5) cinereous.

Luteus. Green ; crown blue ; shoulders yellow ; greater wing-coverts with an orange spot. *Yellow-shouldered P.*

Inhabits South America ; 11 inches long.

Lower edge of the frontlet and chin yellow.

Ochropterus. Green ; front and orbits whitish ; crown, cheeks, chin, throat and remoter wing-coverts yellow.

Yellow-winged P.

Inhabits South America ; 13 inches long.

Bill whitish ; upper feathers of the body edged with black ; lesser wing-coverts nearest the body edged with tawny ; quill-feathers black, some of them edged with blue and green, the middle 4 within red at the base ; 4 middle tail-feathers tip with yellowish, the next 3 from the base to the middle red, the outer blue at the exterior edge ; legs cinereous.

Pulverulentus. Green ; above mealy ; spot on the head yellow, on the wings red. *Mealy P.*

Inhabits Cayenne ; very large ; speaks distinctly.

Bill whitish-horn ; feathers of the face with a slight brown edge ; quill-feathers black without.

Havannensis. Green ; front, chin and throat ashy-blue ; breast with a large red spot ; orbits cinereous. *Blue-fronted P.*

Inhabits Havannah ; 12 inches long.

Feathers above tip with black, beneath with blueish ; greater quill-feathers black, middle ones with a red spot ; lateral tail-feathers red at the base ; legs grey.

Paradisus. Yellow ; chin, belly and base of the tail-feathers red.

Paradise P.

Inhabits Cuba ; 12½ inches long.

Bill, legs and naked orbits white ; irids red ; greater quill-feathers white ; 2 middle tail-feathers entirely, the rest on the last third part yellow, elsewhere red.

Aurora.

- Aurora.* Yellow; arm-pits, edges of the wings and greater quill-feathers without in the middle red. *Aurora P.*
Inhabits *Brazil*; 12 inches long.
Bill, cere, legs and claws white; eyebrows and irids red; tail rounded, the 4 outer feathers from the base to the middle within red.
- Passerinus.* Yellow green; spot on the wings and wings beneath blue. *Passerine P.*
Inhabits *Brazil and Guiana*; 4 inches long.
Bill, cere, orbits, legs and claws orange; primary wing-coverts blue.
- Cyanoly-
feos.* Yellowish-green; collar blue; rump red. *Blue collared P.*
Inhabits *Chili*; larger than a pigeon; docile and easily tamed; is troublesome in corn-fields, and makes its nest in rocky precipices; flesh eatable.
- Sordidus.* Brownish; chin blue; wings and tail green; bill and vent red. *Dusky P.*
Inhabits *New Spain*; size of a pigeon.
Cere blackish; orbits naked, pale ash; irids chestnut; temples, hind-head, rump and tail above, greenish; lower tail-coverts red; legs lead-colour; claws black.
- Domini-
censis.* Green; band on the forehead red; lunules on the neck and back black; quill-feathers blue. *Red-banded P.*
Inhabits *St. Domingo*; 9½ inches long.
Bill pale flesh-colour; legs cinereous.
- Erythrop-
terus.* Green; orbits blackish; middle of the back black, lower part blue; wing-coverts red. *Crimson-winged P.*
Inhabits *New South Wales*; 10½ inches long.
Bill red; cere and legs dirty; back of the female green.
- Festivus.* Green; front purplish; eyebrows and chin blue; back blood-red. *Festive P.*
Inhabits *Guiana*; 11 inches long; very active, but fierce and untractable.
Bill lead-colour tipped with black; cere dark grey; irids saffron; legs cinereous; claws black.
- Robustus.* Green; head somewhat ash; wing-coverts dirty black edged with green; spot on the wings red. *Robust P.*
Size

Size of a pigeon.

Bill large, white; *frontlet* above blackish; feathers of the *crown* striped in the middle with a dirty colour; *legs* dirty ash.

Magnus. Green; greater quill-feathers blue, lesser beneath red. *New Guinea P.*

Inhabits *New Guinea*; size of a pigeon.

Upper *mandible* orpiment-yellow, lower black; *irids* flames colour; *body* grass-green.

Orientalis. Green; outer edge of the wings and primary quill-feathers blueish; tail yellow at the tip. *Eastern P.*

Inhabits *India*; size of the last.

Bill red, tip with yellow; *legs* yellow.

Adscitus. Green; cheeks and wings blue; back on the fore-part black with yellow streaks, hind-part yellowish. *Blue-cheeked P.*

Length $11\frac{1}{4}$ inches.

Bill and *crown* pale yellow; *vent* red; *legs* dusky.

*Bataven-
sis*. Green with yellow streaks; hind-head and nape blackish; face and thighs scarlet. *Batavian P.*

Inhabits *Batavia*.

Bill black; *legs* ash.

Taraba. Green; head, chin, throat, breast and lesser wing-coverts red. *Tarabe P.*

Inhabits *Brasil*; 10 inches long.

Bill and *legs* cinereous; *claws* black.

*Brasilien-
sis*. Green; face red; temples blue; orbits ash. *Brasil green P.*

Inhabits *Brasil*; size of a pigeon; is probably only a variety of the next.

Body green dashed with yellow; *arm-pits* and out side of the secondary *tail-feathers* red; rest of the tail-feathers and first *quill-feathers* blue.

*Autumna-
sis*. Green; front and spot on the quill-feathers scarlet; crown and primary quill-feathers blue. *Autumnal P.*

2. Front;

2. Front and chin blue.
3. Head variegated with red and whitish.

Inhabits *Guiana*; size of the last.

Region of the eyes blue; primary wing-coverts blue with a red base; hinder quill-feathers green; tail-feathers above green tip with yellowish, the outer one blue on the exterior edge, beneath yellow, reddish at the base, with a green spot in the middle.

Coccinophalus. Green; crown and front scarlet; rump greenish-yellow; quill and tail-feathers blue without. *Scarlet-headed P.*

Size of the mistle thrush.

Bill pale horn; cheeks naked; outer edges of the wings yellow; tail tip with yellow.

Accipitrinus. Green; head grey; neck and breast varied with blueish; quill and tail-feathers tip with blue. *Hawk-headed P.*

2. Feathers of the head white long narrow streaked with black.

Inhabits *India*, 2) domesticated in *Guiana*, and when angry erects the crest; size of a pigeon.

Bill and cere blackish; orbits naked, blackish; irids yellow-chestnut; legs and claws plumbeous.

Menstruus. Green; head blueish; vent red. *Blue-headed P.*

Inhabits *Guiana*; not very docile, and has the voice of a jackdaw; size of a turtle-dove.

Feathers of the head and neck brown tip with blue; back and wings green; wing-coverts yellowish-green; quill-feathers green with a brown inner edge; belly green, the feathers tip with blueish; tail-feathers green with a blueish tip, the 3 first on the inner side blood-red from the base to the middle, the outer side yellowish-blue; vent-feathers tip with yellowish-blue; bill horn-colour; upper mandible yellow at the sides; eyes black; orbits blueish-hoary.

Purpureus. Above black-brown, beneath purple; crown and cheeks black; orbits blue; collar with dirty-colour spots; quill and tail-feathers blue. *Purple-bellied P.*

Inhabits *Surinam*; size of a pigeon; not docile.

Bill dirty with an orange spot each side; lateral tail-feathers reddish on the inner side, tip with blue; legs dirty colour.

Melanophalus. Green; beneath yellow; cap black; breast white; orbits flesh-colour. *White-breasted P.*

Inhabits

Inhabits *New Spain* and *Guiana*; $9\frac{1}{2}$ inches long; lives in woods, and flies in flocks, with a hissing noise; not easily tamed, and is shorter and thicker than others of its tribe.

Bill and *cere* flesh-colour; *cheeks* yellow; *neck* orange; greater *quill-feathers* on the outer side blue, on the inner and beneath black, the first lesser green, edged with yellow, the rest green; *tail* rounded; *legs* brown-ash; *claws* blackish.

Pileatus. Green; head black; orbits white; spot on the shoulders blue; tail tip with blue. *Hooded P.*

Inhabits *Cayenne*; $8\frac{1}{2}$ inches long; migrates.

Bill and *legs* red; *chin* yellowish; 2 middle *tail-feathers* entirely green.

Ludovicanus. Sea-green; head tawny, inclining to red towards the bill. *Orange-headed P.*

Inhabits *Louisiana*; feeds on the seeds of the bromelia and li-
odendron; flies in large flocks making a great noise; is not easily tamed or taught to speak; 13 inches long.

Bill yellowish; *legs* white.

Collarius. Green; chin reddish; throat red. *Red-throated P.*

Inhabits *Jamaica*; size of a pigeon.

Quill-feathers black edged with green.

Senegalus. Green; beneath yellow; head cinereous; orbits black, naked. *Senegal P.*

Inhabits the sandy shores of the *Senegal*; $8\frac{1}{2}$ inches long; voice harsh and unpleasing; flies in flocks of 6 or 7, and rests on the top branches of trees.

Bill cinereous; *cere* blackish; *irids* yellow; *quill-feathers* and *spurious wings* ash with a green outer edge; *tail-feathers* cinereous, edged and tip with green; *legs* reddish-ash.

Tuipara. Pale green; lunule on the front red; spot on the middle of the wings yellow. *Red-fronted P.*

Inhabits *Brazil*; size of a lark.

Bill flesh-colour; *tail* very short; *legs* and *claws* grey.

Chrysopterus. Green; spot on the wings blue and tawny; orbits naked, white. *Golden-winged P.*

Inhabits *India*; size of the last.

Bill white; 4 first *quill-feathers* blue on the outer edge, brown on the inner, the rest above orange, beneath yellow.

Pullarius.

Pallarius. Green; front red; tail tawny with a black band; orbits cinereous. *Ethiopian P.*

Inhabits *Guinea, Ethiopia, India* and *Java*; $5\frac{1}{2}$ inches long; imitates the manners of other birds, but does not easily learn to speak; fond of its own tribe.

Malaccensis. Green; front and rump blue; under wing-coverts red. *Malacca P.*

Inhabits *Malacca*; size of the last.

Bill greyish-violet; *irids* red; *legs* brown.

Cericalis. Green; front and semilunar spot on the nape, under part of the throat and breast scarlet. *Red-naped P.*
About the size of the last; *tail* green.

Indicus. Green; orbits pale flesh-colour; crown red or orange; hind-part of the rump red; quill-feathers within and tail without blueish-green. *Indian P.*

Inhabits *India*; size of a lark.

Bill orange; upper *tail-coverts* red; *legs* and claws flesh-colour.

Vernalis. Bright green; wings paler; throat, rump and tail blood-red. *Vernal P.*

Size of the last.

Bill pale reddish; *wing-coverts* full green; *tail* beneath blue; *body* beneath paler green; *legs* pale.

Calgulus. Green; rump and breast scarlet; crown (of the male) blue. *Sapphire P.*

2. Head yellowish-blue, with a transverse orange bar behind; front, under part of the throat and tail-coverts red.

Inhabits *Philippine Islands*; 5 inches long; sleeps suspended on a branch by one foot, and is fond of the milky juice of the cocoa nut.

Quill-feathers beneath blue, except the outer margin, 2) blackish with a deep green edge; *tail-feathers* beneath blueish; *throat* blood-red, but not in the female; 2) *legs* and claws red.

Anaca. Green; beneath tawny-brown; crown bay; spot on the back and tail pale brown; wings edged with red.

Chestnut P.

Inhabits *Brazil*; size of a lark.

Bill and *orbits* brown; lower *tail-coverts* tawny-brown; greater *quill-feathers* sea green at the tip; *legs* and claws blackish.

Purpuratus.

Purpuratus. Green; crown and neck cinereous; rump, edge of the wings and tips of the spurious wings blue; tail purple edged with black. *Purple-tailed P.*

Inhabits *Cayenne*; 8 inches long.

Bill yellowish; lower part of the back blue; shoulders brown; tail-coverts very long; 2 middle tail-feathers green dotted with black; legs cinereous; claws yellowish.

Canus. Green; head, chin and throat grey-green; tail rounded with a broad black band. *Grey-headed P.*

Inhabits *Madagascar*; near 6 inches long.

Bill grey; legs and claws hoary; head (of the female) green.

Melanopterus. Pale green; back; wing-coverts, band on the tail and primary quill-feathers black, the secondary yellowish dotted with blue. *Black-winged P.*

Inhabits *Java* and *Luzonia*; 6 inches long.

Bill and legs dirty white; body beneath verging to blueish; upper part of the tail purplish; 2 middle tail-feathers uniform; lower tail-coverts equal in length to the tail.

Capensis. Green; some of the quill-feathers blue; bill and legs reddish. *Cape P.*

Inhabits the *Cape*: $4\frac{1}{2}$ inches long.

Crown sometimes with a blue spot; legs often yellow.

Torquatus. Green; hind-head with a yellow transverse band streaked with black.

Inhabits *Philippine Isles*: $5\frac{1}{2}$ inches long; does not talk.

Bill, irids and legs blackish-grey; hind-head (of the female) blue with transverse black streaks.

Minor. Green; crown scarlet; breast blue; greater quill-feathers black. *Lesser P.*

Inhabits *Luzonia*: smaller than the last.

Bill, irids and legs yellow; belly inclining to yellowish; upper tail-coverts red; female with a red frontlet and breast, and a tawny spot on the neck.

Toxi. Green; throat with a pale orange spot; wings with a bracken band of a gold-green hue.

Inhabits *America*? near 7 inches long. Legs grey.

Tirica. Green; bill flesh-colour; legs and claws blueish.


Inhabits *Brazil* and *Jamaica*; size of a lark.

See

- Sesona.* Green ; a pale yellow spot on the wings and tail-coverts. *Cayenne Parrakeet.*
Inhabits *Guiana* ; easily tamed and very talkative.
Bill and *legs* grey.
- Tai.* Green ; front orange ; orbits yellow. *Gold-headed P.*
Inhabits *Brazil* ; size of a starling.
Bill black ; *eyes* large, blackish ; *front* sometimes pale yellow,
with a red bill.
- Erythro-*
chlorus. Green ; head crested ; wings and tail red. *Red-tailed P.*
Size of a blackbird ; *crest* consisting of 6 feathers, 3 of which
are longer, moveable at pleasure.
- Mexica-*
rus. Green ; front crested ; wing-coverts and tail purple ; or-
bits blue ; chin yellow ; neck red. *Mexican P.*
Inhabits *New Spain* ; 7 inches long.
Bill yellow ; *quill-feathers* edged with white ; *legs* and *claws*
cinereous.

6. RAMPHASTOS. *Bill* enormous, empty,
convex, ferrate at the edges ; each
mandible incurvate at the tip : *nos-*
trils behind the base of the bill, long,
narrow : *tongue* feathered at the
edges : *feet* mostly climbers. *Toucan.*

These are confined to the tropical parts of South America ; are
impatient of cold ; feed chiefly on the fruit of the palm tree ;
are easily tamed ; fly in small flocks of 8 or 10 ; breed in hol-
low trees deserted by wood-peckers ; and lay 2 white eggs.

- Indis.* Green ; belly yellow ; rump red. *Green* 
Inhabits *Cayenne* ; 14 inches long.
Upper mandible yellow with red sides and a black line in the
middle, lower black, the base and round the nostrils red, the
teeth in both white ; *irids* and naked orbits yellow ; *legs*
lead-colour ; *claws* black ; *tail* wedged, beneath inclining to
ash ; *head*, *chin* and *throat* in the male black, in the female
bay, terminated by a black narrow transverse band.

- Edentulus.* Bill not ferrate at the edges. *Toothless T.*
Vol. I. — E c *Inhabits*

- Inhabits *Cayenne*; 12 inches long.
Body above green, beneath greenish-yellow; *head* and *neck* chestnut; *rump* red; *mandibles* upper brown, lower black; *thighs* green; probably only a variety of the last.
- Pavoninus.* Green; feathers sprinkled with red spots, *Pavonine T.*
 Inhabits the sea coasts of *New Spain*; 17 inches long; feeds on fish.
Bill variegated yellow and black; *legs* and *claws* black.
- + *Piperivorus.* Green; the fore-parts black; vent and thighs red. *Piperine T.*
Inhabits Cayenne; 13 inches long.
Bill black with a red base; *orbits* flesh-colour or blueish; *temples* with an orange spot; crescent on the *neck* orange; *quill-feathers* brown edged with green; *tail* wedged, beneath brown tipped with bay; lower *tail-coverts* red; *legs* plumbeous; *claws* black; *female* beneath grey, with a brown neck.
- Aracari.* Green; abdominal band, vent and rump red; belly and breast yellow.
Inhabits Brasil, Surinam and Cayenne; above 16 inches long.
Upper mandible black on the back and tip, sides whitish, base 3-lobed at the nostrils, with a white arch at the root, lower black; *head, wings and tail* black; *breast and belly* yellow and scarlet, with a black roundish spot in the middle of the breast and a similar transverse one on the beginning of the belly; *thighs* tawny.
- Torquatus.* Above black, beneath whitish; belly green, the hind-part red; collar red. *Collared T.*
Inhabits the coasts of New Spain; 18 inches long; feeds on fish.
Upper mandible blackish, lower black; *irids* reddish-yellow; *head and neck* black; lower *tail-coverts* red; *thighs* purple; *legs* greenish-ash; *claws* black.
- Piscivorus.* Blackish; abdominal band and vent red; rump white. *Brasil T.*
Inhabits South America; 21 inches long.
Bill yellow with a scarlet spot on the tip, lower mandible blue; *cap, back, wings, tail, belly and thighs* black; *temples, chin, breast and rump* white.
- Erythrorhynchus*

Erythro-
tyrachos. Blackish; cheeks chin and throat white; upper tail-coverts sulphur, lower and crescent on the breast red.

Red-beaked T.

Inhabits *South America*: size of the last.

Base and back of the bill yellow, tip of the upper mandible and hollow of the lower, red; nostrils edged with black; orbits blueish; legs plumbeous; claws black.

Picurus. Blackish; abdominal band, vent and rump yellow.

Yellow-breasted T.

Inhabits *South America*: 19 inches long.

Cheeks, chin and neck orange; band on the belly and vent inclining to red; rump sulphur-yellow; legs and claws lead-colour.

Picatus. Blackish; breast yellow; vent and tips of the tail-feathers red; rump black.

Preacher T.

Inhabits *Guinea* and *Brazil*; above 20 inches long.

Bill yellowish-green tip with reddish; belly red; tail dotted with red at the tip.

Dicolorus. Blackish; breast, belly, vent and rump red; chin yellow.

Yellow-throated T.

Inhabits *Cayenne*: 17 inches long.

Bill olive with a black base, the mandibles edged with red; cheeks sulphur; throat orange edged with sulphur.

Toca. Blackish; chin, throat and rump white; orbits, circle on the breast and vent red.

White-throated T.

Inhabits *Cayenne*: 9—10 inches long.

Bill reddish-yellow, base black; upper mandible black at the tip.

Indicus. Throat quill-feathers and tail black; cheeks and breast white; belly and thighs yellow; crown reddish-orange; rump crimson.

Indian T.

Inhabits *India*.

Bill hardly ferrate, and not so large as in others.

Intus. Yellowish-white; neck with 2 black lateral stripes; tail and wings variegated with black and white; lesser wing-coverts yellow.

Yellow T.

Inhabits *New Spain*; size of a pigeon.

Bill black; irids yellow; legs brown; claws yellowish.

E c 2

Caruleus.

- Cæruleus.* Blue mixed with cinereous. *Blue T.*
 Inhabits coasts of *New Spain*; size of the last.
Bill longer than the body; eyes black; irids tawny.
- Dubius.* Chin blue. *Blue-throated T.*
- Albus.* Entirely white. *White T.*

7. MOMOTUS. *Bill* strong, slightly curved, ferrate at the edges: *nostrils* feathered: *tongue* feathered: *tail* wedged: *feet* gressorial.

*Brazilian-
us.* Green; front blueish-green; hind-head violet; crown black. *Brazilian Motmot.*

2. Variegated with green, tawny, blue and cinereous.

Inhabits *Brazil*; size of a blackbird; 18 inches long; lives solitarily in unfrequented forests, building a nest of dried grass on the ground, or in holes abandoned by the armadillo, and lays 2 eggs; feeds on insects and raw flesh, the fragments of which it macerates in water; when taken strikes violently with its bill; voice harsh, weak, tremulous.

Body above olive-green, beneath rusty; *head* large; *crown* blue, black in the middle; *bill* black, hardly 2 inches long; *legs* black; *claws* hooked.

8. SCYTHROPS. *Bill* large, convex, sharp-edged, channelled at the sides, hooked at the point: *nostrils* naked, rounded, at the base of the bill: *tongue* cartilagenous, split at the point: *feet* climbers.

Pfittaceus. S.

Inhabits *New South Wales*; size of a crow, but from the length of the tail measures 2 feet 2 inches long.

Bill pale brown tip with yellowish, convex, keeled; *nostrils* surrounded with a red wrinkled skin; *orbits* naked; *head*, *neck*, and under parts of the *body* pale blueish-grey; *back*, *wings* and *tail* cinereous, the feathers mostly with dusky-blackish tips; *tail* long, wedged, the 2 middle feathers 11 inches, all barred with black near the end, and tip with white; *legs* short, scaly, and with the hooked *claws* black.

9. BUCEROS.

9. BUCEROS. *Bill* convex, curved, sharp-edged, large, ferrate outwardly, with a horny protuberance on the upper mandible near the base: *nostrils* behind the base of the bill: *tongue* short, sharp-pointed: *feet* gressorial. *Hornbill*.

Bicornis. Front bony, flat, 2-horned at the fore-part. *Philippine H.*
Inhabits *Philippine Isles*; size of a common hen; black, beneath white; *quill-feathers* with a white spot; *tail* longish, black; *tail-feathers* 10, the 4 outer each side white; *legs* greenish.

2. Bill vermillion; belly black; back and rump brown-ash.
Is worshipped by the Indians, and has a voice resembling the grunting of a swine or the bellowing of a calf; feeds on fruit, which it swallows whole, and after digesting the pulp, casts up the stones whole.

Abyssini-
cus. Black; bony protuberance semicircular on the fore-part; orbits, chin and part of the throat naked, violet-brown; greater quill-feathers white. *Abyssinian H.*
Inhabits *Abyssinia*; 3 feet 2 inches long; bill 9 inches;
• feeds chiefly on beetles, and builds in large bushy trees.
Bill black edged with white, about the base of the upper mandible each side a tuft of bristly hairs.

Africanus. Black; protuberance straightish, pointed. *African H.*
Inhabits *Africa*; size of a turkey.
Bill partly red, partly yellow, the mandibles edged with black; head slightly crested.

Malabari-
cus. Black, beneath white; protuberance rounded above, acute towards the front, reaching behind the eyes. *Pied H.*
Inhabits *India*; 2½—3 feet long; eats flesh, nuts, small birds.
Each *mandible* curved downwards, sharp at the tip; protuberance 4½ inches long, the greater part black, the middle both of the protuberance and the bill dirty yellowish-white; *vent*, *quill* and outer *tail feathers* tipped with white; *legs* strong, scaly, black; *claws* long, hooked, bluntish.

2. The 2 or 4 middle tail-feathers black; the rest white with black bases.

3. Protuberance egg-shaped; quill and tail-feathers, except the 2 middle ones which have black bases, white.

Hydrocorax.

- Hydroco-*
tax. Protuberance flattened forwards; belly tawny; neck with a white collar. *Indian H.*
Inhabits *Melucca Islands*; 2 feet 4 inches long; is frequently tamed to destroy rats and mice; feeds on the wild nutmeg, which renders its flesh pleasantly aromatic.
Protuberance cinereous, behind whitish; crown blackish; cheeks and chin black, the latter terminating in a dirty-grey arch; hind-head and neck pale chestnut; back, shoulders, rump, wing and tail-coverts brown; breast and belly blackish, the latter yellowish on the hind-part; tail ash or dirty-white; legs grey-brown; claws black.
- Rhinoceros.* Protuberance recurvate, pointed. *Rhinoceros H.*
tax. Inhabits *India*; 3 feet long; preys on rats, mice and carrion, and follows hunters for the entrails of their game.
Bill 16 inches long, whitish-yellow; upper mandible red at the base, lower black; horn 8 inches long, red on the upper surface; body black, beneath and behind dirty-white; tail 12 inches long, the lower coverts white and black; tail-feathers white at the base and tips, black in the middle; legs and claws dusky-grey.
- Galeatus.* Bill straightish; protuberance nearly square, the hind-part rounded, the fore-part flat. *Helmet H.*
Inhabits *Asia*.
Bill 8 inches long, mostly red.
- Panayensis.* Greenish-black, beneath reddish-brown; protuberance sharp above, flat on the sides. *Panay H.*
Inhabits *Panay*; size of a raven.
Bill very long, arched, brown with transverse lateral wrinkles, and longitudinal orange furrows; orbits naked, brown; irids whitish; head and neck of the female, white with a large triangular greenish-black spot; tail-feathers 10, from the base to the middle tawny-yellow, tip with black; legs lead-colour.
- Manillensis.* Above blackish-brown, beneath dirty-white; bill not serrate; protuberance small. *Manilla H.*
Inhabits *Manilla*; 20 inches long.
Bill less curved; tip less acute; head and neck white waved with brown; temples with a black spot; tail with a tawny band across the middle.

Nasutus.

Nigritus. Front smooth; tail-feathers white at the base and tip.

Tock H.

Inhabits near the river *Senegal*; size of a wood-pecker; feeds on fruit, and when young is easily tamed.

Bill bent downwards and with the *legs* black in the young bird, but growing red with age; *body* above dirty-grey, the feathers whitish at the tips, beneath dirty-white; *cheeks* with a dirty white stripe; 2 middle *tail-feathers* dirty-grey, the other 10 as far as the middle and at the tip white, the rest blackish; *claws* black.

Albus. Snow-white; bill and legs black.

White H.

Inhabits *Ladrone Islands*; size of a goose.

Bill narrow, bent down; *neck* small.

Difusus. Protuberance rounded above, 7 or 8-lobed; body black; tail-feathers white.

Wreathed H.

2. Protuberance 5-lobed; body clouded black and grey; tail black.

Inhabits *New Guinea*, 2) *Ceylon*; size of a crow.

Bill bent, 5—6 inches long, 2) yellow with a naked blue spot at the base of the under mandible; *protuberance* an inch high, mandibles not serrate; 2) primary *quill-feathers* black tip with white; outer *tail-feathers* black tip with white, half black; *crown* black; *legs* blueish.

Ginginia. *Bill* bent, compressed laterally; protuberance pointed; body above green, beneath white.

Gingi H.

Inhabits the *Carnatic*; 2 feet long.

Bill from the base to the middle and protuberance black, the rest white, edges serrate; *quill-feathers* tip with white; lateral *tail-feathers* black with a brown bar near the end and white tips, middle ones grey with a black bar near the end; *cheeks* with an oval black bar under the orbits; *legs* black.

Orientalis. *Bill* convex, keeled above, protuberant at the base; orbits naked, wrinkled, cinereous; body blackish.

Eastern H.

Inhabits *New Holland*; nearly as large as a jay.

Nostrils open near the base of the bill.

Gristus. Protuberance sloping before, abrupt behind; body grey.

Grey H.

Inhabits *New Holland*.

Crown black; *bill* yellow, with a black spot at the base; at the corner of each eye a tuft of bristles, and behind a naked blue spot;

spot ; *wing-coverts* variegated with black ; *quill-feathers* tipped with white.

Viridis. Protuberance abrupt ; body black ; wings greenish.

Green H.

Bill yellowish, a naked whitish-blue spot at the base of the under mandible : outer *tail-feathers*, base of the *quill-feathers* and *belly* white : *legs* blueish,

10. BUPHAGA. *Bill* straight, somewhat square, mandibles gibbous, entire, more gibbous on the outside : *legs* formed for walking.

Africana. B.

African Beef-eater.

Inhabits near the river *Senegal* : $8\frac{1}{2}$ inches long : picks holes in the backs of cattle for the purpose of getting at the larvæ of the gad-fly.

Body above grey-brown, beneath and *rump* yellowish : *bill* hardly an inch long, sometimes yellowish tipped with red, sometimes black : *tail* wedged : *tail feathers* 12, acute, grey-brown, the lateral ones within tawny : *legs* and *claws* black.

11. CROTOPHAGA. *Bill* compressed, semioval, arched, carinate on the back ; upper mandible angular at each edge : *nostrils* pervious.

Ani.

Blackish-violet ; feet climbers

Lesser Ani.

Inhabits *South America* ; $13\frac{1}{2}$ inches long : gregarious, many females laying in the same nest, each taking care of its own brood : eggs sea-green, spotted towards each end : feeds on fruit, seeds, worms and various insects, the cattle it is said lying down that it may pick from the back the *acarus ricinus* with which they are infested.

Body black : *tail* long, wedged, of 10 feathers : upper mandible incurvate at the tip : *nostrils* oval : *tongue* fleshy, entire : *legs* black.

Major.

Blackish-violet, the feathers edged with green ; *quill-feathers* dusky-green ; feet climbers.

Greater Ani.

Inhabits

Inhabits *Cayenne*; 18 inches long; is docile and easily tamed.

Varia. Varied with black and red; feet climbers. *Varied Ani.*
Eleven inches long; bill black; head, throat, breast, larger and middle wing-coverts and tail black; rest of the body tawny-red; legs tawny-brown.

*Ambulatio-
na.* Feet formed for walking. *Walking Ani.*
Inhabits *Surinam*; except in the structure of the feet exactly resembles the last.

12. GLAUCOPIS. Bill incurvate, arched, the lower mandible shorter and carunculate beneath at the base: nostrils depressed, half covered with a subcartilaginous membrane: tongue subcartilaginous, split and fringed at the tip: feet walkers.

Cinerea. G. *Cinereous Wattle-bird:*
Inhabits *New Zealand*; 15 inches long; walks on the ground and seldom perches on trees; feeds on berries, insects and small birds; makes a hissing and murmuring noise; flesh good.
Body, bill and legs black; caruncle first blue, then orange; irids very large, blue; tail long, wedged, consisting of 12 feathers; legs long, hind-claws longer than the rest.

13. CORVUS. Bill, convex, sharp-edged: nostrils covered with fetaceous recumbent feathers: tongue cartilaginous, bifid: feet walkers. *Crow.*

The greater part of this tribe is found in every climate; they are prolific, social and clamorous, building in trees, and laying 6 eggs; their food is mixed animal and vegetable; bill with a small tooth-like process each side near the point; middle-toe joined to the outer as far as the first joint.

Hottentot- Greenish-black; tail even; whiskers very long.
tus.

Hottentot C.

Inhabits the *Cape*; near 12 inches long.

Above the *nostrils* are black whiskers 3 inches long, and shorter thicker ones at the corners of the mouth; feathers of the neck long, narrow, flowing.

* *Corax.* Black; back blueish-black; tail roundish.

Raven.

2. With a few scattered white feathers.

3. Entirely white.

4. Variegated with black and white.

Inhabits all *Europe*, *Siberia*, *North America* and as far as *New Spain*; 2 feet 2 inches long; feeds on carrion, small birds, weak lambs, dead sheep, eggs, fish, berries, and when pressed by hunger dried skins and excrements; is thievish and noisy, and may be taught to speak; builds in high trees or rocks; eggs blueish-green spotted with brown, which the male sits on by day and the female by night; is long lived and has an exquisite sense of smell; the *Greenlanders* eat the flesh, make the skins into garments, the wings into brushes, and the split feathers into fishing lines.

Clericus. Black; chin white; base of the bill cinereous.

White-chinned C.

Inhabits *Sweden*; colour of the body sooty-black, the wings and tail inclining to dark olive; is probably only a variety of the carrion crow.

Australis. Black; quill-feathers brownish-black; feathers on the chin lax.

South-sea Raven.

Inhabits *Friendly Islands*; 19 inches long; tail 8.

Bill strong at the base and flattened at the sides.

Albicollis. Blackish; wing-coverts brown; a broad semilunar white patch on the neck; bill carinate.

White-necked C.

Length 20 inches.

Bill keeled on the upper mandible, the base covered with reflected bristly feathers; legs black, rough.

* *Corone.* Entirely black with a violet-blue gloss; tail rounded, feathers pointed at the ends.

Carrion C.

2. Varied with white in a few places.

3. White.

Inhabits *Europe*, *Siberia*, *North America*, *New Guinea*, *Netherlands*.

Holland and Madeira ; 18 inches long ; feeds on carrion and small weak animals, also on fruit and grain, being very troublesome to corn lands ; builds in lofty trees.

Female of a duller colour.

* *Fragile-gus.* Black ; front somewhat cinereous ; tail roundish. *Rook.*

Inhabits *Europe* and western *Siberia* ; 18 inches long ; flies abroad morning and evening in great flocks, perches by night on trees in vast numbers, and builds in large communities called rookeries ; is very noisy and feeds on worms, the larvæ of insects, particularly beetles, and corn ; flesh of the young ones good.

Bill longer, straighter and slenderer than the last ; ends of the tail-feathers rounded ; colour mixed with a purplish shade ; tail above with a dull green tinge,

* *Corax.* Dark ash ; head, throat, wings and tail black.

Hooded C.

Inhabits *Europe* and *Asia* ; 22 inches long ; migrates in winter to more southerly parts ; feeds on almost every thing, and in Sweden purges the lands of those myriads of larvæ which would at some times destroy the fruits of the earth ; sits with its face towards the wind ; eggs blueish-green with blackish-brown spots.

Dauricus. Black ; crown blueish-black ; neck, throat and belly white.

White-breasted C.

2. Entirely black ; neck and throat brown.

Inhabits *China*, *Persia* and near the *Senegal* ; 12 inches long ; feeds on fruit and insects.

Tail and wings with a greenish cast.

Caledoni- sus. Cinereous ; bill, eyebrows, tail and legs black.

Caledonian C.

Inhabits *New Caledonia* ; 15 inches long, tail 5 ; irids yellowish.

Jamaican- sus. Totally black.

Chattering C.

Inhabits the mountains of *Jamaica* ; 18 inches long ; feeds on berries and beetles, and is perpetually chattering.

* *Monedula.* Brown ; hind-head hoary ; front wings and tail black.

Jackdaw.

2. A white collar round the neck.

3. White with a yellowish bill.

F f 2

4. Bright

4. Bright black ; eyes surrounded with white dots.
5. Black ; bill and legs red.
6. Wings white ; bill subcurved.
7. Bill forked.
8. Black ; hind-head hoary.
9. Brownish with white shoulders.

Inhabits *Europe* and western *Siberia*, 5) *Persia* ; feeds on insects, grain and seeds ; breeds in old turrets or lofty rocks ; is very gregarious, easily tamed and thievish ; eggs paler, less, and not so much spotted as those of the hooded crow ; 13 inches long ; irids white.

* *Glandarius*. Wing-coverts blue with transverse black and white lines ; body pale rusty-purple mixed with grey. *Jay*.

2. White with reddish irids.

Inhabits woods of *Europe* and *Siberia* ; 13 inches long ; is very docile, restless, easily tamed and taught to speak ; forms its nest of small sticks and fibrous roots, lays six eggs of the size of a pigeon's, dull olive spotted with pale brown ; collects nuts and other fruit, and hides what it cannot eat ; feeds also on corn, small birds, and eggs.

Bill strong, black ; tongue thin, black ; chin white ; mouth with a large black spot at each angle ; forehead white streaked with black ; feathers of the head long, and may be erected into a crest ; first quill-feathers black, next 9 cinereous, next 6 black, the lower surfaces without tinged with blue, 2 next black, and the innermost bay tipped with black ; lesser wing-coverts bright bay, greater blue barred with black ; scapulars black ; rump white ; tail with 12 black feathers ; legs pale brown ; claws large hooked.

Argyrophthalmus. Black ; breast blue ; eyes silvery ; tail white at the tip ; bill and legs black. *Carthaginian C.*

Inhabits *Carthageria* in *America* ; size of the last ; lives in woods ; feeds on insects, fruit and seeds ; voice clear and not unpleasant.

Wings on the outer part, and spot above and beneath the eyes blue.

Dubius. Rusty-brown ; crown and temples blackish ; neck and belly yellowish ; bill, eyes and legs black.

Doubtful C.

Inhabits *Carthageria* ; from the base of the bill 2 white lines pass through the orbits and meet on the hind-head.

Cristatus.

Cygnatus. Blue; collar black; wing-coverts with transverse black lines.

Blue Jay.

Inhabits *North America*; 11 inches long; is gregarious and builds in marshy places; has a very pleasant note; feeds on worms, serpents, chestnuts, and is particularly destructive to fields of maize; eggs olive spotted with brown.

Crest blue; from the base of the bill a black streak passes each side beyond the eyes; cheeks, chin and belly white; breast pale red; back pale purple; wing-coverts and secondary quill feathers blue, the latter and one row of the coverts dotted with white; tail long, wedged, with black and blue lines, and tip with white; legs black.

Stelleri. Body above black, beneath, wings and long wedged tail blue; head crested.

Steller's C.

Inhabits north-west coast of *America*; 15 inches long.

Upper wing-coverts and primary quill-feathers within dirty-white; secondary quill and middle tail-feathers lined with black.

Cayanus. Subviolet, beneath white; throat and front black; tail white at the tip.

Cayenne Jay.

Inhabits *Cayenne*; 13 inches long.

Bill, legs and claws grey; frontlet, cheeks and nape black; tail rounded, violet; sides of the head with 3 white spots.

Auritus. Brown-ash; head somewhat crested; frontlet and chin black; front and ears with a white spot; quill-feathers black edged with grey.

White-eared C.

Inhabits *China*; 11 inches long.

Bill black hardly bent; irids yellow; crown blueish-ash; tail long rounded a little flouching; legs long, brownish; back-claw strong and much bent.

Porphyrocephalus. Reddish, beneath yellow; head purplish; quill and tail-feathers black.

Purple-headed C.

Inhabits *China*.

Bill lead-colour; legs carnation; tail long.

Macerfis. Greyish-ash; back, wing-coverts and vent red; forehead, quill-feathers and tail black; secondary quill-feathers with 2 white spots.

Macao C.

Inhabits *Macao* in *China*; about a third smaller than the magpie; irids yellowish.

Rufus.

Rufus. Red; beneath reddish-white; head and neck brown.

Rufous C.

Inhabits *China*; size of a blackbird.

Bill and legs black; greater wing-coverts and secondary quill-feathers grey; primary and 2 middle tail-feathers black; lateral tail-feathers brown and grey tipped with white.

• **Caryocastles.** Brown dotted with white; wings and tail black; tail-feathers black at the tip, the middle ones as if worn.

Nut Cracker.

Inhabits *Europe* and *Siberia*; 13 inches long; lives chiefly in pine forests; collects and feeds on insects, berries and nuts.

Body with triangular white spots; vent white; crown and tail-feathers without spots; feathers of the nostrils sometimes wanting; tongue bicauspitate.

Balicaeus. Greenish-black; tail forked.

Philippine C.

Inhabits *Philippine Isles*; size of a thrush; sings well.

Bill, legs and claws black; tail nearly 4 inches long.

New Guinea. Front, frontlet and tail black; head, neck, back and upper part of the breast dusky-ash; lower part, belly, vent and rump white transversely streaked with black.

New Guinea C.

2. Cinereous; head and neck blueish; frontlet and ocular band black; breast and belly pale rusty; legs brown-red, wrinkled.

Inhabits *New Guinea*; a foot long.

Bill blackish; a black streak drawn through and behind the eyes; legs short dirty-white.

Papuanus. Cinereous; belly white; quill-feathers blackish-brown.

Papuan C.

Inhabits *New Guinea*; 11 inches long.

Bill yellowish, back of the upper-mandible angular; legs small cinereous; claws short.

Nudus. Black; feathers on the cap downy; neck generally bare.

Bare-necked C.

Inhabits *Cayenne*; size of the jackdaw.

Bill broad at the base, dirty-ash; some of the outer quill-feathers pale grey; legs yellow; tail even.

Calvus.

Cajanus. Rusty-brown; front and crown bald. *Bald C.*
 Inhabits *Cayenne*; 13 inches long.
 Bill a little curved, dirty-black; legs dusky; body beneath and upper tail-coverts paler.

Pacificus. Cinereous; beneath inclining to bay; hind-head, neck, wings and tail black; wings and tail tip with white. *Pacific C.*
 Inhabits *South Sea* islands; $10\frac{1}{2}$ inches long.
 Bill, legs and claws black; front and chin pale; 2 middle tail-feathers totally black.

Tropicus. Black; vent dotted with dirty-white; tail rounded. *Tropic C.*
 Inhabits *Owhyhee*; $12\frac{1}{2}$ inches long.
 Bill an inch and half long, broad at the base; body above shining-black, wings and tail verging to green; legs and claws black.

Erithacus. Body above brown, beneath whitish; tail wedged; quill-feathers at the base pale violet, in the middle black, and tip with white. *Red-billed Jay.*
 Inhabits *China*; larger than the jay.
 Bill and legs red; front, throat and breast deep black; hind-head and neck pale grey; claws blackish, long, hooked, tip with black.

Sinensis. Above tawny-red; crown brown; eyebrows white; tail brown wedged, with a black band towards the tip; tail-feathers with dirty-white roundish spots near the end. *Chinese Jay.*
 Inhabits *China*; in size and habits resembles the jay.
 Bill and legs lead-colour; a black line reaching across the eyes; ears with a blueish-white spot inclosed in a black circle; chin white; secondary quill-feathers brown.

Sibericus. Above cinereous; beneath rusty-orange; quill and 2 middle tail-feathers cinereous, the rest orange. *Siberian Jay.*

Inhabits *Siberia*; 10 inches long.
 Bill dusky; front, cheeks, chin and throat pale; crown sub-crested, brownish-black; rump rusty-orange; legs cinereous.

Peruvia. Above pale green, beneath pale yellow; crown white; a black narrow band down the chin and throat; 3 outer tail-feathers each side, yellow. *Peruvian Jay.*
 Inhabits

Inhabits *Peru*; 11½ inches long.

Bill dusky, circumscribed at the base with a blue line; tail wedged.

Flavus. Body greenish-brown, beneath yellow; chin and eyebrows white; wings and tail tawnyish-brown.

Yellow-bellied Jay.

Inhabits *Cayenne*; 9 inches long.

Bill black; crown with a longitudinal golden streak in the middle; legs slender, short, lead-colour.

Senegalen- Violet-black; tail wedged; limbs black. *Senegal C.*
sis. Inhabits near the *Senegal* in *Africa*; 14 inches long.

Body beneath dirty-black; bill black; quill and tail-feathers brown edged with violet-black.

Cyanus. Cinereous; crown shining black; wings and tail blue; tail-feathers very long, the middle ones tipped with white.

Blue C.

Inhabits *Dauria*; about 9 inches long; is gregarious, timid, cunning and noisy; builds in shrubs and willows; body beneath paler.

* *Pica.* Variegated black and white; tail wedged. *Magpie.*

2. Variegated footy black and white; eyes red.

3. Body longitudinally streaked with black and white.

4. Totally white.

Inhabits *Europe*, *North America* and *Asia*; about 18 inches long; is crafty, restless, noisy, quarrelsome, and may be easily tamed and taught to imitate the human voice; builds in trees, covers its nest over with thorns, leaving a narrow entrance; feeds on almost every animal or vegetable substance, and is very destructive to gardens and orchards; eggs greenish with numerous black or dusky spots; migrates.

Colour of the body and tail finely glossed with green and purple; tail very long.

Caribæus. Above ferruginous, beneath white; head, neck and wedged tail blue, streaked with white; collar and spot on the hind-head white.

Caribbee C.

Inhabits *West India* islands; size of the last.

Bill and legs red; spot on the hind-head (in the male) with transverse black lines; rump and upper tail-coverts yellow; quill-feathers blueish-green; lesser wing-coverts chestnut, green in the middle, the greater blue (in the female green) with whitish shafts and edges.

Africanus.

Africanus. Above brown, beneath dirty-ash ; subcrested head and neck purple ; tail wedged, tip with white. *African C.*

Inhabits *Africa* ; 22 inches long.

Bill and legs red ; feathers of the hind-head tip with grey ; quill-feathers blueish at the outer margin.

Mexicanus. Entirely blueish-black. *Mexican C.*

Inhabits *New Spain* ; size of the jackdaw ; lives near towns and is perpetually chattering.

Bill, legs and claws black.

Surinamensis. Green ; hind-head and tips of the primary quill-feathers blue ; spot on the neck and behind the ears pale green ; tail dusky. *Surinam C.*

Inhabits *Surinam* ; size of the carrion crow.

Colour of the body deep, changeable.

Bill and primary quill-feathers dusky ; legs flesh-colour.

Zanæ. Blackish ; head and neck tawnyish ; tail long. *Zanæ C.*

Inhabits *New Spain* ; in size, manners, garrulity and docility resembles the magpie.

Bill, legs and claws black.

Brachyurus. Green ; beneath and lines on the head tawnyish ; wings with a white spot. *Short-tailed C.*

2. Green ; head and neck black ; rump and wing-coverts blueish-green ; tail black, under-coverts rosy.

3. Above green, beneath yellowish ; head and neck black streaked with white and orange ; quill and tail-feathers black.

4. Above green, beneath yellowish ; head blackish-brown ; nape yellowish ; a black lunule on the neck.

5. Head and neck black ; eyelids greenish edged with blue ; chin white ; throat and back green ; belly tawny ; vent red.

6. Head and neck black ; crown and longitudinal band tawny ; chin white ; breast tawnyish ; belly, thighs and vent red.

7. Green ; crown brown ; neck and collar white ; nape and fillet between the eyes black ; belly white, with a spot in the middle and vent scarlet.

Inhabits islands of the *Indian Ocean* ; 6—7 inches long.

Vol. I. — G g

Bill

Bill brown; *head* black; *angle of the mouth* orange; *irids* whitish; *chin, quill-feathers and tail* black, the latter green at the tip; *legs* orange; *claws* dirty-red.

Canaden- Brown; *front* yellowish; *beneath and tips of the tail-*
fis. feathers white. *Cinereous C.*

Inhabits *North America*, particularly the eastern parts; 11 inches long; lives in woods, but during winter near villages; is thievish, bold, and flies in pairs; feeds on sea-weed, worms, flesh, and lays up provisions for the winter; builds in pine-trees and lays blue eggs; is detested by the inhabitants.

Bill, stout, black; *nostrils* covered with a tuft of whitish feathers; *cheeks* tawnyish dirty white; feathers of the *crown* long, black; *wings* long, wedged; *tail and feet* black.

**Pyrrhoco-* Blackish; *bill* pale yellow; *legs* black. *Alpine C.*
tax.

Inhabits the *Alps*, rarely *England*; 15 inches long; voice loud, harsh; feeds on seeds, and is noxious to corn fields; flesh good.

Legs sometimes red; *claws* black; *bill* subulate, curved, long; as are likewise all that follow of this tribe.

**Gracu-* Violet-blackish; *bill and legs* red. *Red-legged C.*
lus.

Inhabits the *Alps, Norway, England, Egypt and Persia*; 16 inches long; is restless, clamorous, voracious, thievish and gregarious; flies in a circle: builds in rocks, and feeds on juniper berries and insects; is much taken with glitter, and apt to catch up bits of lighted sticks, by which means mischief often happens; eggs 4—5, white, spotted with yellow.

Outer circle of the *irids* red, inner grey; *eyebrows* red; *claws* large, hooked, black.

Australis. Above black, beneath cinereous; *bill* red; *wing-coverts* spotted with white; *tail* rounded. *Cayenne C.*

14. CORACIAS. *Bill* sharp-edged, bent in at the point, the base naked of feathers: *tongue* cartilaginous, bifid: *legs* short: *feet* formed for walking.

Roller.

* *Garrula.*

* *Garrula*. Blue, back red ; quill-feathers black. *Common R.*
 Inhabits *Africa*, *Syria* and *Europe* ; size of the jay ; is sonorous, gregarious, migratory and timid ; builds in trees, particularly the beech ; feeds on insects, worms, frogs, nuts and corn ; eggs pale green, with innumerable dusky spots. Behind the ears a naked spot ; primary quill-feathers beneath blue ; middle tail-feathers dirty-green, the rest blue dotted with black on the outer edge ; legs dirty-yellow.

Indica. Blue ; the fore-part testaceous ; cap green. *Indian R.*
 Inhabits *Ceylon* ; 11 inches long ; resembles the last. Bill black, an inch and half long ; crown blueish-green ; neck and upper part of the back testaceous ; temples and chin streaked with white ; wings mixed green and blue ; outer tail-feathers in the middle sea-green.

Cassra. Blue ; quill-feathers pale yellow at the outer edge. *Cape R.*
 Inhabits *Ethiopia* ; female blueish-black.

Abyssinica. Green ; cheeks white ; shoulders, rump and greater quill-feathers blue ; back and secondary quill-feathers orange-brown. *Abyssinian R.*
 Inhabits *Abyssinia*.

Senegalen-sis. Above reddish-brown ; beneath, head, tail and upper part of the wings blueish sea-green ; face white ; shoulders and quill-feathers blue. *Senegal R.*
 Inhabits near the *Senegal* and *Ceylon* ; size of the jay. Bill black ; tail forked ; legs reddish-flesh-colour.

Madagascaren-sis. Rusty purple-brown ; rump, vent and tail blueish-green ; tail towards the tip with a purplish band, the tip itself and quill-feathers above darkish-blue. *Madagascar R.*
 Inhabits *Madagascar* ; 10 inches long. Bill short, yellowish ; eyes large : quill-feathers black at the inner edge ; legs reddish-brown or yellowish.

Orientalis. Green ; throat striate with blue ; tail-feathers black at the tip. *Oriental R.*
 Inhabits *India* ; 10½ inches long. Bill yellowish, broader at the base, and more hooked at the point than in others ; body above green inclining to brown, beneath blue with a shade of green ; head and scrag of the neck brown ; quill-feathers mixed blue and black, with a large

large pale blue spot in the middle; *tail-feathers* green at the base, the 2 middle ones black, the rest blue; *legs* yellowish; *claws* black.

Bengalensis. Tawnyish; beneath blueish; neck beneath violet, streaked with paler; tail entire. *Bengal R.*

Inhabits *Bengal* and the island *Mindanao*; 12½ inches long.

Bill and *claws* blackish; *crown* green; lower part of the *back* and *rump* blue; *breast* tawny, verging to violet; lesser *wing-coverts* and upper *tail-coverts* blackish-blue; the greater and remoter coverts of the *wings* green blue, the middle ones mixed blue and green, the next green; the 5 first *quill-feathers* deep blue; 2 middle *tail-feathers* dusky-green, the rest blueish-green, with blue bases and tips; *legs* grey.

Caudata. Tawnyish; beneath blueish; neck beneath violet, streaked with paler, the outer tail-feathers very long.

Long-tailed R.

Inhabits *Angola*; 15½ inches long.

Resembles the last, except in having the outer *tail-feathers* very long.

Carulea. Above blue dashed with pale green; beneath rusty; wings tipped with black. *Blue R.*

Cyanea. Entirely of a most vivid blue.

Ultramarine R.

Length 8 inches,

Bill dirty-ash.

Cayennensis. Tawnyish-green; beneath dirty-white; eyelids white; chin with a black streak each side; tail wedged.

Cayenne R.

Inhabits *Cayenne*; 9 inches long.

Bill strong, red, a little curved towards the tip; *legs* pale grey, and longer than in other species.

Mexicanus. Tawny-grey; beneath and on the wings pale grey mixed with flame-colour. *Mexican R.*

Inhabits *New Spain*; larger than a thrush.

Puella. Blue; neck on the fore-part and sides, breast, belly, quill-feathers and greater wing-coverts black. *Fairy R.*

Inhabits

Inhabits *India* ; size of a blackbird.

Bill strong, and with the *legs* black ; *wings* with 3 small blue spots : *tail* dusky-blue.

Striata. Blueish-black with greenish-blue streaks ; bill, tail and legs black. *Blue-striped R.*

Inhabits *New Caledonia* ; 8 inches long.

Female cinereous or grey, not streaked ; *quill-feathers* black, edged with cinereous ; *irids* red.

Varia. Black ; beneath, lower part of the back, rump and upper tail-coverts white ; tail black, equal, tip with white. *Pied R.*

Inhabits *New Guinea* : 13 inches long ; is of a doubtful genus, between the *Oriolus*, *Coracias*, and *Ramphastos*.

Bill blueish ; $2\frac{1}{2}$ inches long ; *wing-coverts* variegated with black and white, the secondary some of them black some white ; 2 middle *tail-feathers* quite black ; greater *quill-feathers* and outer edge of the wings black ; *legs* plumbeous ; *claws* strong, sharp, black.

Scutata. Black ; throat and breast crimson. *Red-breasted R.*

Something less than the common crow.

Body uniformly black with a slight blueish gloss on the back and wings ; *beak* strong, broadish at the base, and slightly notched at the tip ; lower mandible palish towards the tip ; each side the upper mandible are 7 *hairs*, flattened at the lower part and rising in a curved direction ; 2 outer *tail-feathers* shorter than the rest ; *legs* black ; *claws* strong, that of the back-toe larger than the rest.

Sinensis. Green ; beneath yellowish-white ; tail wedged, white at the tip. *Chinese R.*

Inhabits *China* ; $11\frac{1}{2}$ inches long.

Bill, *irids*, *legs* and *claws* red ; between the eyes a black streak ; *thighs* grey ; *wing-coverts* and *quill-feathers* olive, some of the latter tip with black.

Vagabunda. Head and neck black ; body above rusty-brown, beneath cinereous ; wings white in the middle ; tail very long, wedged, grey, tip with black. *Grey-tailed R.*

Inhabits *India* ; 17 inches long.

Bill black ; *legs* cinereous ; lesser *wing-coverts* rusty-brown ; greater and secondary *quill-feathers* white, the primary black.

Docilis.

- Docilis.** White interspersed with reddish; beneath bay; legs yellow; tail-feathers black tipped with white. *Tame R.*
Inhabits southern *Asia*; size of a blackbird: is docile and imitative.
Bill yellow: 9 first *quill-feathers* white as far as the middle and then black, the rest wholly black: *claws* flesh-colour.
- Militaris.** Crimson; long quill-feathers and tail black. *Crimson R.*
Inhabits *Cayenne*; is probably not of this genus.
Body a rich vivid crimson; *bill* orange: *head* slightly crested: *side-feathers* longer than the rest: *legs* dusky.
- Nigra.** The whole body and limbs black; tail long. *Black R.*
Length 16 inches.
Bill strong, and with the *feet* black: *tail* 7 inches long.
- Afra.** Ferruginous; beneath lilac; vent green-blue; quill and tail-feathers blue with blackish tips. *African R.*
Inhabits *Africa*; 8½ inches long.
Body stout; *bill* yellow: *legs* brown.
- Melanoccephala.** Purple-blue; head and neck black; body beneath white; quill-feathers brown; tail wedged, tipped with white. *Black-headed R.*
Inhabits *China*; size of a crow.
Bill and *legs* red: *nape* pale grey: 2 middle *tail-feathers* blue, the rest purplish, all tipped with white.
- Strepera.** Black; spot on the wings, vent, base and tip of the tail black. *Noisy R.*
Inhabits *Norfolk Islands* in great numbers; 19 inches long; is foolish and very noisy by night.
Bill 2½ inches long, straightish, black, toothed and horn-colour near the tip: *nostrils* naked, long, placed at the base of the bill: 6 first *quill-feathers* white at the base, forming the spot on the wings: *vent* and lower *tail-coverts* white: *tail* long, round, the large feathers white at the base, the lateral ones within tipped with white: *wings* when folded reach as far as the middle of the tail: *legs* black, the outer toe connected at the base to the middle one, which assimilates it to the genus *Corvus*.

15. **ORIOLOUS.** *Bill* conic, convex, very sharp and straight; upper mandible a little longer, slightly notched: *tongue* bifid, sharp-pointed: *feet* formed for walking. *Oriole.*

The birds of this genus are gregarious, noisy, numerous, voracious, and great devourers of corn; they chiefly inhabit America, and often build pendulous nests.

**Gelbula.* Pale yellow; lores and limbs black; outer tail-feathers on the hind-part yellow. *Golden O.*

Inhabits *Europe, Asia* and *Africa*; $9\frac{1}{2}$ inches long; is migratory; feeds on cherries, berries and insects; builds an urceolate nest of leaves in the branches of trees, and lays 4—5 dirty-white eggs with small dusky-brown spots; flesh good; voice sharp.

Bill and *irids* red; *legs* plumbeous.

Female dusky brownish-green; lateral tail-feathers yellowish-white.

2. Head and tips of the middle tail-feathers black.
3. Yellow variegated with blackish spots; head, neck, quill and tail-feathers blackish.
4. Limbs black with yellow tips; head with a black band. Inhabits *Cochinchina*.
5. Head with a transverse blue band; tail-feathers yellow with a blue bar; quill-feathers yellow spotted with blue.

Inhabits *India*.

Radiatus. Tawny; head, chin and throat black dotted with white.

Striped-headed O.

Size of a blackbird; *body* beneath pale; *legs* yellow; *claws* reddish.

Picus. Tawny; head, neck and breast spotted with white; tail rounded. *Climbing O.*

Inhabits among trees in *Guiana*, which it climbs like a pie and picks out insects from under the bark; 7 inches long.

Bill yellowish-grey; colour of the *belly* inclining to brown; *legs* blackish.

Icterus.

Icterus. Tawny; head, throat, back, quill and tail-feathers black; wings with a white spot. *Icteric Q.*
 Inhabits the warmer parts of *America* and *Carribbee Islands*; active and bold; builds a large cylindrical nest, hanging from the extreme branch of a tree; is domesticated in *America* for the purpose of destroying insects; $9\frac{1}{2}$ inches long.
Bill mostly black with a brown base; *orbits* naked, blueish; *irids* yellowish; spots on the *wings* oblique; *legs* sometimes black, sometimes plumbeous or grey-white.

Novæ His-pania. Yellow; head, chin, quill-feathers and tail black; greater wing-coverts tipped with yellow, lesser totally black. *Mexican O.*
 Inhabits *New Spain*; size of the last.
Bill long, yellow.

Annulatus. Yellow; head and neck black; greater wing-coverts and quill-feathers blackish with a yellowish edge; tail annulate with blackish. *Ring-tailed C.*
 Inhabits *America*; size of a pigeon.
Bill yellow; *legs* grey.

Pictus. Front red; nape orange; back yellow; cheeks, rump and belly blueish; shoulders brown; quill and tail-feathers black. *Painted C.*
 Inhabits *America*? *Cim. Phys.* 98. tab. 53.

Brasili- nus. Yellow; breast spotted; head and back with pale brown spots; belly white; tail and wings brown, the latter tipped with whitish. *Brazilian*
 Inhabits shrubby places in *Jamaica*; 4 inches long.
Bill $\frac{1}{2}$ an inch long; *orbits* yellow; *legs* brown; *claws* yellow.

Japacani. Mixed black and pale brown; beneath varied with white and yellow, with transverse black lines; head and tail blackish.
 Inhabits *Brazil*; 8 inches long.
Bill black; *irids* golden; *legs* dirty-white; *claws* sharp, black.

Costotoll. Black; beneath and tail variegated saffron and black. *New Spain*
 Inhabits *New Spain*; size of a starling.

Wings cinereous beneath; the *young* bird entirely yellow, except the tips of the wings, which are black.

Griseus. Varied with yellow and black; back, thighs and belly cinereous. *Grey O.*

Inhabits woods in *New Spain*; size of the last; does not sing; flesh good.

Pheniceus. Black; wing-coverts tawny. *Red-winged O.*

Inhabits in vast flocks from *New York* as far as *New Spain*; 8—9 inches long; is very destructive to rice plantations, and devours likewise the swarms of insects and worms that infest the low grounds; builds a thick pendile nest between reeds, and just beyond the reach of floods; eggs white, with a few scattered black streaks.

2. Shoulders red edged with yellow.

Inhabits *Africa*. *Nat. Miscel.* 252.

Americanus. Black; chin, throat, breast and upper angle of the wings red. *Masking bird. Red-breasted O.*

2. Crown red; bill flesh-colour.

Inhabits *Guiana* and *Cayenne*; 7 inches long; sings pleasantly; imitates the notes of other birds; builds a long cylindrical pendile nest.

Oryzivorus. Black; head, neck and breast with a purple shade. *Rice O.*

Inhabits *Cayenne*; 9 inches long.

Bill $1\frac{1}{2}$ inch long; convex and protuberant at the base.

Ludovicianus. Variegated black and white; head, neck, belly and rump white; wings and wedged tail violet edged with white.

Inhabits *North America*, principally *Louisiana*; 10 inches long.

Bill black, an inch long; *legs* lead-colour.

2. Blackish-brown; neck, breast and wings spotted with black; head white with a black spot on the crown.

Inhabits *Hudson's Bay*; $9\frac{1}{2}$ inches long.

3. Blackish-green; head, chin, outer quill-feathers, thighs and streaks on the breast white.

Inhabits *Hudson's Bay*; $8\frac{1}{2}$ inches long.

Cristatus. Black; crested; lower part of the back, rump and vent chestnut; lateral tail-feathers yellow. *Crested O.*

Vol. I. — H h

Inhabits

Inhabits *South America* ; 18 inches long.

Bill yellow, strong, and rather gibbous ; *legs* blackish ; 2 middle *tail-feathers* black, the rest a little shorter ; *tongue* narrow, channelled, deeply cleft.

2. Olive-brown ; beneath bay ; 2 middle *tail-feathers* chestnut, the lateral ones yellow.

Inhabits *Cayenne* ; 20 inches long.

Bill yellow ; *hind-head* with 2 long pendant bristly feathers.

3. Body on the fore-part green, hind-part chestnut ; quill and 2 middle *tail-feathers* black, the lateral ones yellow.

Inhabits *Cayenne* ; 14 inches long.

Bill red.

Hæmorrhous.

Black ; rump scarlet.

Red-rumped O.

Inhabits *Brazil* ; 11 inches long.

Bill sulphur ; *legs* black.

2. Blackish-brown ; rump claret-colour ; vent yellow.

Inhabits *Guiana*.

Perficus.

Black ; hind-part of the back, spot on the wing-coverts and base of the tail-feathers yellow.

Black and yellow O.

2. Black ; hind-part of the back, spot on the wing-coverts and outer tail-feathers above yellow at the base, all beneath half yellow and black.

3. Purplish-black ; spot on the wings yellow varied with black.

Inhabits *South America* ; forms a pendent nest, shaped like an alambic, on the extreme branches of trees, of which there are sometimes 400 together ; eggs dirty-white, with small pale-brown spots.

Bill yellowish ; *tongue* in 2) blue ; *irids* blue ; *legs* and *claws* black.

Mexicanus.

Blackish ; beneath and on the head yellow.

Black-crowned O.

Inhabits *New Spain* and *Cayenne* ; near 19 inches long.

Bill, *legs* and *claws* blackish ; *neck* yellow ; *crown* black-brown ; *tail* and *wings* black.

Ruber.

Vermilion ; wings belly and tail deepest black.

Red O.

Inhabits *Antigua*.

Bill and *legs* black ; *irids* flame-colour.

Guianensis.

Guianensis. Blackish, edges of the feathers grey; breast and neck beneath red. *Guiana O.*

Inhabits *Guiana*; above 7 inches long.

Tail striate with grey; legs and claws brown.

Flavus. Golden; hind-part of the back, wings and tail black.

Antigua yellow O.

Inhabits *Antigua* and *South America*.

Bill and legs black; irids red.

*Baltimore-
725.* Blackish; beneath and band on the wings tawny.

Baltimore O.

Inhabits *North America*; 7 inches long; builds a purse-shaped nest, open at the top, on the forked branch of a tree.

Bill lead-colour; greater wing-coverts black tipped with white; first quill-feathers dirty-white edged with white; 2 middle tail-feathers black, the rest black on the lower part and orange above.

Female head and back olive edged with brownish; body beneath and tail-coverts yellow; tail grey, edged with white.

Spyrius. Black; beneath tawny; wings with a white bar.

Bastard O.

Inhabits *North America*; something shorter than the last; builds a pensive nest and lays 5 eggs.

Lower part of the back and tail-coverts yellow; quill-feathers grey edged with white; tail black, wedged.

Female head and neck olive; chin black; wing-coverts and tail-feathers grey edged with white; tail dirty-white edged with yellow.

Textor. Yellow; head brown with a shade of golden; quill and tail-feathers blackish edged with orange. *Weaver O.*

Inhabits near the *Senegal*; size of the golden oriole; voice sharp.

Bill corneous; head in the winter often yellow; scrag of the neck sometimes brown; wings and tail dusky edged with yellow; belly and thighs whitish; irids orange; legs reddish.

Bonana. Tawny; head and breast chestnut; back quill and tail-feathers black. *Bonana O.*

Inhabits *South America* and *Caribbee Islands*; 7 inches long; forms a nest of leaves and stalks under a plantain leaf, the leaf itself constituting one end.

Bill; upper part of the back, quill-feathers and tail black; neck chestnut; rump dotted with chestnut; legs and claws grey.

H h 2

Nidipen-

Nidipendulus. Frontlet and wreath black ; crown, neck, back and tail reddish-brown ; breast and belly tawny-yellow.

Hang-nest O.

Inhabits the woods in *Jamaica* ; sings charmingly ; builds a pendulous nest on the extreme branch of a high tree.

Bill white ; wings dusky-brown mixed with white.

Varius. Black ; beneath, rump and lesser wing-coverts ferruginous.

Chestnut and black O.

Inhabits *Cayenne* ; 6 inches long.

Bill and legs dark-blue ; outer edges of the secondary quill-feathers dirty-white. Sometimes varies in having the head and neck variegated with blackish and greenish ; chin and throat black ; breast chestnut ; belly yellowish ; quill and tail-feathers blackish edged with white : probably occasioned by difference of sex.

Xanthorinus. Pale yellow ; chin, quill and tail-feathers black.

Lesser Banana O.

Inhabits *Jamaica* and *New Spain* ; 7 inches long.

Bill blackish ; wing-coverts black, many of them edged with white ; quill-feathers within towards the pale white ; legs and claws black.

Dominicensis. Black ; body on the hind-part, wing-coverts and spot on the wings pale yellow.

St. Domingo O.

Inhabits *New Spain*, *Jamaica* and *St. Domingo* ; 8 inches long ; builds a purse-shaped nest on the extreme branches of trees, hanging over water.

Jamaican. Yellow ; head, throat, spot on the shoulders, wings and tail black.

Brazilian O.

Inhabits *Brazil* ; fixes its nest to a plantain leaf by means of filaments ; 10 inches long.

Bill black ; wing-coverts with a white spot in the middle ; legs brown.

Cayanensis. Black with a yellow spot on the wings.

Yellow-winged O.

Inhabits *Cayenne* and *St. Thomas* ; 8 inches long.

Bill black ; tail rounded, a little wedged at the tip.

Leucopterus. Black with a white spot on the wings.

White-winged O.

Inhabits *Cayenne* and *Surinam* ; 8 inches long.

Female cinnamon-brown ; beneath somewhat cinereous.

Itteroc-

- Icterocephalus.* Black ; head and neck yellow. *Yellow-headed O.*
 Inhabits Cayenne ; 7 inches long.
 Bill blackish ; legs and claws brown.
- Melanchoicus.* Grey dotted with black ; band over the eyes black.
 Inhabits New Spain ; 6 inches long.
 Bill and legs flesh-colour ; irids bay ; feathers with each a blackish spot in the middle ; quill-feathers and tail blackish edged with tawny-brown ; cheeks and chin black.
 2, Blackish-brown ; feathers of the upper part of the body edged with yellow, of the lower part wings and tail with tawny ; band over the eyes and on the chin white.
 Inhabits Cayenne.
 Female grey mixed with white.
- Capeensis.* Olive-brown ; beneath pale yellow. *Olive O.*
 Inhabits the Cape of Good Hope and Louisiana ; 7 inches long.
 Bill, legs and claws brown ; colour on the crown inclining to grey, on the chin and throat to orange ; wing-coverts brown, edged and tip with olive ; quill-feathers brown edged with olive.
- Caruleus.* Black or cinereous ; head, wings and tail blue. *Blue O.*
 Inhabits Madras.
 Bill tawny.
- Trifasciatus.* Blueish lead-colour ; head with a triple stripe of black, and waved with black on the sides ; lower part of the back and rump jonquil-yellow. *Triple-striped O.*
 Inhabits India. *Cim. Phys.* 101. tab. 56.
 Bill dusky ; stripes on the head commencing at the upper mandible, and from thence dividing and passing over the head and through the eyes each side ; behind each eye a longitudinal white streak extending some way down the neck ; larger quill-feathers black, shorter tip with white ; 2 outer tail-feathers each side white, the rest black ; legs reddish-brown.
- Viridis.* Green ; eyebrows, cheeks and chin yellow ; some of the wing-coverts tip with white. *Yellow-throated O.*
 Inhabits Hudson's Bay ; 9 inches long.
 Bill corneous ; legs grey.
- Ferrugineus.* Black ; edge of the wings rusty ; head and neck purplish-black ; belly dirty-ash. *Rusty O.*
 Inhabits

Inhabits New York ; 7—8 inches long.

Bill and legs dirty-ash ; area of the eyes black ; wings and tail with a greenish shade.

Fuscus. Black ; head rusty-brown ; tail dirty-ash.

Brown-headed O.

Inhabits New York ; gregarious.

Niger. Totally black.

Black O.

Inhabits North America ; about 10 inches long ; is gregarious, and in brooding time sings delightfully ; feeds on worms and beetles ; builds in trees about 8 feet from the ground, and lays 5 eggs, dusky with black spots.

Female greenish-brown ; beneath and on the head inclining to cinereous.

Minor. Black ; head mixed with a little blue. *Lesser black O.*

Inhabits South America ; 6 inches long ; is easily tamed.

Female head and neck dusky ; wings and tail blueish.

Olivaceus. Olive ; head, chin, throat and breast brown ; wings black.

Cayenne olive O.

Inhabits Cayenne ; 6 inches long.

Bill and legs black.

*Aoonalafschkan-
fis.* Brown ; spot under the eyes and chin white ; throat and breast rusty-brown. *Aoonalafschkan O.*

Inhabits the island Aoonalafschka ; 8 inches long.

Bill and legs brown.

*Caudacus-
tus.* Variegated ; tail-feathers sharp-pointed. *Sharp-tailed O.*

Inhabits New York ; size of a lark.

Bill and legs dusky ; crown brown or cinereous ; cheeks brown ; thighs and vent pale yellow spotted with brown ; belly white ; back varied with cinereous, black and white ; quill-feathers and wing-coverts brown, the latter edged with rusty ; tail dusky-olive, with pale bands.

Sinensis. White ; head, neck, breast and upper part of the back cinereous ; quill-feathers steel-blue ; tail rounded, half white half steel-blue. *Kink O.*

Inhabits China ; 6½ inches long.

Bill

Bill reddish ; *legs* flesh-colour ; *tail* rounded, the 2 middle feathers steel-colour tipped with white, the outer one each side nearly all white, with a steel-blue spot at the base.

Aureas. Tawny-yellow ; frontlet, chin, primary tail-coverts and feathers black at the extremity. *Tawny-yellow O.*
Inhabits *India* ; 8 inches long.
Bill brown.

Viridens. Olive, beneath inclining to green ; tips of the wings and lower coverts yellow, the upper and greater brown edged with yellow ; tail rounded. *Whistler O.*
Inhabits *St. Domingo* ; about 7 inches long.
Bill corneous ; *legs* and claws grey.

Fuscatus. Black ; back, rump, quill-feathers and forked tail inclining to blue ; lower tail-coverts white. *Fork-tailed O.*
Inhabits *New Spain* ; size of a blackbird.
Bill yellow ; *tail* long ; *legs* and claws black.

Chrysoccephalus. Black ; cap, wing and tail-coverts pale yellow. *Gold-headed O.*
Inhabits *America* ; above 8 inches long ; size of a lark.
Hind-head and *thighs* golden ; *bill* black ; *legs* and *claws* black-brown.

16. GRACULA. *Bill* convex, sharp-edged, nakedish at the base : *tongue* entire, sharpish, fleshy : *feet* formed for walking. *Grakle.*

These all inhabit out of *Europe* ; have a thick bill, compressed at the sides, with small nostrils at the base, and sharp hooked claws ; the middle-toe of the fore-feet connected at the base to the outer.

Religiosa. Violet-black ; spot on the wings white ; hind-head with a yellow naked band. *Minor G.*

2. Much larger.

Inhabits *India* ; 2) *Asia* ; 10½ inches long ; feeds on cherries, grapes and other fruit ; when tamed is exceedingly loquacious.

Bill red, tipped with yellow ; *legs* tawny ; *feathers* of the head (except

(except the middle ones) very short and silky; quill-feathers 2—8 with a white band; naked band reaching nearly to the nape.

Calva. Subcinereous; head naked each side. *Bald G.*
Inhabits the *Philippine Isles*: is voracious; feeds on fruit, and builds in the hollows of trees; 10 inches long.
Bill and *legs* brown; sides of the *head*, when it is irritated, scarlet; *crown* with a black, feathered line.

Fatida. Black; quill-feathers without blueish; band round the neck naked. *Fetid G.*
Inhabits *America*: size of a magpie.
Head with erect short silky feathers; *bill* like that of the cuckow; *nostrils* oval, naked; *tongue* sharp; *tail* even.

Barita. Greyish; shoulders blue; quill-feathers outside green. *Boat-tailed G.*
Inhabits the *Antilly Isles* and *North America*: 13 inches long; feeds on insects and fruit.
Bill shortish, blackish, beneath paler, naked at the base; *tail* rounded and concave when folded, but when spread open, flat.

Cristatella. Black; the first quill-feathers at the base, and tail-feathers at the tip white; bill yellow. *Crested G.*
Inhabits *China*: 8½ inches long; is very loquacious and makes a hissing noise; feeds on rice, worms and insects.
Plumage inclining to blue; *irids* orange; feathers of the *front* long, erected at pleasure into a crest; greater quill-feathers from the base to the middle white, the other part deep blue; *legs* yellow.

Sularis. Blueish-black; belly, spot on the wings, and lateral tail-feathers white. *Dial G.*
Inhabits *Bengal*: size of a thrush.
Female, throat and breast brown.

Quiscal. Violet-black; tail rounded. *Purple G.*
2. Body white and black; head white; quill-feathers and tail black.
Inhabits *Mexico*, the warm parts of *America* and *Jamaica*: 13½, female 11½ inches long; sings finely, and builds in trees

trees in unfrequented places ; lays 5—6 blueish eggs with black stripes and spots ; when domesticated feeds on all kinds of grain, and is very destructive to plantations, yet clears them in some measure from noxious insects.

Bill and legs black ; irids silvery ; tail long, wedged, and with the wings purple ; female totally dusky.

Anth. Greenish-blue ; belly rusty ; legs blood-red. *Egyptian G.*
Inhabits *Egypt* ; 4 inches long ; feeds on insects,
Neck with a longitudinal rusty line at the sides.

Longif. tra. Brown ; beneath ochre-yellow ; head and neck black ; band round the neck naked, wrinkled ; area of the wings white ; tail wedged, black, white at the tip.
Long-billed G.

Inhabits *South America* ; above 8 inches long ;
Bill black, long ; *nostrils* placed in the middle ; *tongue* deeply cleft, the edges jagged ; *irids* dusky ; first *quill-feathers* obliquely white at the base ; *legs* long, stout, black ; *body* slender.

2. Shining-black ; some of the feathers of the shoulders and tail yellow.

Inhabits *Sandwich Islands*.

Bill without bristles at the base.

Sturnina. Hoary ; spot on the crown and back between the wings violet-black ; tail and wings with a shade of green, the latter with a double white stripe.

Inhabits the ozier banks of *Dauria* ; in its nest and eggs resembles the thrush.

Female, dirty-ash ; back brown ; wings and tail deep black.

Merops. Black ; band on the wings and body beneath white ; region of the eyes naked, wrinkled. *Yellow-faced G.*

Inhabits *New Holland*.

Bill compressed ; *nostrils* oval ; *legs* yellow ; wrinkled.

Cyanen. fr. Striate ; above fawny, beneath yellowish ; head and chin varied with tawny and white ; tail wedged, sharp, and with the wings tawny. *Climbing G.*

Inhabits the interior parts of *Guiana* ; climbs trees ; 10 inches long.

Bill black, near 2 inches long, a little curved ; *legs* black.

- Caruncula.* Cinereous ; tail and quill-feathers black ; crown and chin with warty excrescencies. *Gockscumb G.*
lata. Inhabits the *Cape of Good Hope* ? 6 inches long.

17. PARADISEA. *Bill* covered with a belt of downy feathers at the base : *feathers* of the sides very long : two of the *tail-feathers* naked.

Bird of Paradise.

The birds of this genus chiefly inhabit *New Guinea*, from whence in the dry season they migrate into the adjacent islands ; *nostrils* small, covered with feathers : *tail* with 10 feathers, the 2 middle-ones feathered at the base and tip only ; *legs* robust, the middle-toe of the fore-feet connected as far as the first joint to the outer.

- Apoda.* Chestnut ; neck beneath gold-green ; feathers on the sides longer than the body ; 2 middle tail-feathers long, bristly. *Greater P.*

2. Less ; body above yellow ; feathers on the sides yellowish-white.

Inhabits the islands near *New Guinea*, and in the rainy season returns back to *New Guinea* ; feeds on the larger moths and butterflies ; flies in flocks with a leader at their head, and making a noise like the thrush.

The 2 long *tail-feathers* are naked, straight and tapering to the tip ; the *tail*, as it is improperly called, is nothing more than the long feathers of the back and flanks.

- Regia.* Chestnut-purple, beneath whitish ; a green-gold band on the breast ; 2 middle tail-feathers filiform, feathered, semilunar at the tip. *King P.*

Inhabits islands of the *Indian Ocean*, and returns to *New Guinea* in the rainy season ; is less than the last and much rarer ; solitary, and seeks for red berries ; 5—7 inches long.

Breast blueish ; *cirri* of the tail very long ; *feathers* under the wings longer than the rest ; *tail* short, truncate.

- Tristis.* A triangular naked space behind the eyes ; head and neck brown. *Grakle P.*
Inhabits

Inhabits *Philippine Islands*; 9½ inches long; feeds on fruit, insects, mice and every kind of grain; builds twice a year in the forked branches of trees; eggs 4; when young is easily tamed, and becomes docile and imitative.

Bill and legs yellow; body brownish; first quill-feathers white from the base to the middle; tail-feathers (except the middle ones) tipped with white.

This bird has a great affinity in all its habits to the grackle genus, yet on account of the downy feathers at the base of the bill it is placed here.

Magnifica. Chestnut-brown above; chin green, with golden lunules; crown with a tuft of yellow feathers.

Magnificent P.

Inhabits *New Guinea*; 9 inches long.

First quill-feathers brown, secondary deep yellow; middle tail-feathers very long, with a very short fringe; legs and bill yellow, the latter black at the base and tip.

Cirrata. Head, neck and wings black; tuft of hairs near the crown and frontlet yellow.

Crested P.

Inhabits *New Guinea*; 18 inches long.

Bill very long, black, hooked; tuft on the crown 3 inches high, rigid, appearing as if bristly: probably a variety of the last.

Nigra. Black; beneath slight green; hind-head, nape, crown and band on the middle of the belly fine green; under the chin a splendid gold-colour crescent.

Gorget P.

Inhabits islands of the *Indian Ocean*; 28 inches long.

Tail-feathers 12, unequal, the 2 middle ones 22, the outer ones 5 inches long.

*Leucop-
tera*. Black; crown shining copper; quill-feathers white, edged with black on the outside; tail very long, wedged.

White-winged P.

Length 25 inches; bill black, hardly curved; feathers of the chin long; tail very long, 2 middle feathers 20, the rest 7 inches long.

Superba. Crested; head, crown and belly green; chin violet, silky; wings black; tail with a shade of green.

Superb P.

112

Inhabits

Inhabits *New Guinea*; 10 inches long.

Bill black; legs brown; under the wings a tuft of loose, black, silky feathers, as long as the wings when folded.

Furcata. Black; under the wings a downy tuft; feathers in the middle of the belly like a forked tail, shining green.
An incomplete specimen. *Mus. Lev.*

Aured. Crested, black; crown, cheeks and chin violet-black; throat, spot on the neck, and breast shining green; at the region of the ears each side three long bristly feathers. *Gold-breasted P.*

Inhabits *New Guinea*; size of a turtle-dove.

Bill and legs black; irids yellow; crest varied with white and black; under the wings a tuft of loose, black, long feathers; bristly feathers of the ears as long as the body, feathered only at the tip.

Viridis. Sea-green; back, belly, rump and tail steel-blue. *Blue-green P.*

Inhabits *New Guinea*; 16 inches long.

Bill thick, black; plumage on the head silky, on the body appearing as if crisp at the tips.

Alba. Entirely white. *White P.*

2. Fore-part black; hind-part white.

Inhabits *Papuan Islands*; very rare.

18. TROGON. Bill shorter than the head, sharp-edged, hooked, the mandibles ferrate at the edge: feet formed for climbing. *Curucui.*

These inhabit warm countries, are solitary and live in damp unfrequented woods, building on the lower branches; their flight is short, and they feed on insects; body long; nostrils covered with bristles; feet short, woolly; tail very long, consisting of 12 feathers.

Strigilis. Cincereous; belly tawny; wings with white stripes. *Cinereous C.*
Inhabits

Inhabits *Guiana* and *Cayenne*; 12½ inches long.

Bill, legs and claws dusky-ash; lower tail-coverts orange; tail blackish.

Curucui. Green-gold, beneath tawny; chin black. *Red-bellied C.*

2. Wing-coverts brown; naked space beneath the eyes o.

3. Belly yellow.

4. Cinereous mixed with green-gold; tail long.

Inhabits *New Spain*, *Brazil* and *Peru*, 4) *Cayenne*; lives solitarily in the thickest woods, and is not easily tamed; builds in hollow trees, and lays 3—4 white eggs, the size of a pigeon's; 10½ inches long.

Lateral tail-feathers with white and black bars, the middle ones tipped with black.

Viridis. Green-gold; beneath pale yellow; chin black; a green-gold band on the breast. *Yellow-bellied C.*

2. Green; belly white.

Inhabits *Cayenne*; 11½ inches long.

Bill cinereous; head and neck as far as the breast violet-blue; wings black, the first quill-feathers edged with white, the secondary spotted with white without; tail wedged, the 2 middle feathers black, 2 next each side mixed blackish and green, the rest obliquely indented with half black and white.

Rufus. Rufous; belly, vent and thighs yellow; wing-coverts striate black and green; quill and tips of the middle tail-feathers black. *Rufous C.*

Inhabits *Cayenne*; 9 inches long.

Quill-feathers edged with dusky; 3 outer tail-feathers each side transversely streaked with black and white and tipped with white; legs dusky.

Violaceus. Violet; eyebrows yellow; back and rump green-gold; wings brown; middle tail-feathers blueish-green tipped with black. *Violet-headed C.*

Inhabits *Cayenne*; 9½ inches long.

Bill plumbeous, tipped with white and blackish near the front; upper tail-coverts green-gold; secondary tail-feathers partly blueish-green, the 3 outer black with white lines and tips.

2. Wings black; belly white. *Lev. Mus. 177.*

Maculatus. Brownish with dusky lines; crown green; edges of the wings

wings and dusky tail with white lines; secondary quill-feathers and wing-coverts tipped with white.

Spotted C.

Inhabits Ceylon. Bill brown.

Fasciatus. Back rusty; beneath tawny-red; pectoral band white.

Fasciated C.

Inhabits Ceylon; 10½ inches long; builds in high trees.

Bill black, thick, a little bent and surrounded with bristles; orbits naked, blue; irids yellow; head and neck black; tail-coverts grey; wing-coverts and shoulders undulate with white and black; quill-feathers and legs dusky; tail long, unequal, tipped with black.

2. Yellowish-brown; beneath yellowish-red; head blackish; neck and breast cinereous; wing-coverts striate with white; tail black.

Bill, legs and space round the eyes blue; tail beneath yellow.

Asiaticus. Green; front, crown and neck red; chin blue with a red spot; quill and tail-feathers black. *Blue-checked C.*

Inhabits India; 9 inches long.

Indicus. Blackish, above spotted with rusty; beneath yellowish barred with blackish; head black with white streaks; tail very long, barred. *Indian C.*

Inhabits India.

Bill blue; legs cinereous; from the angle of the mouth a longitudinal white band.

19. BUCCO. Bill sharp-edged, laterally compressed, notched each side near the tip, bent inwards, and a long slit beneath the eyes: nostrils covered with incumbent feathers: feet formed for climbing. *Barbet.*

These birds live chiefly in warm climates, and are very stupid. Bill strong, straightish, almost covered with bristles; tail-feathers usually 10, weak.

Tamania. Tawny-brown; beneath tawny-white spotted with black. *chir*

chin tawny; neck with a tawny lunule varied with black; behind the eyes a black spot.

Spotted-bellied B.

Inhabits *Cayenne* and *Brazil*; 6½ inches long; lives in unfrequented places; feeds on insects; flesh insipid.

Head very large; bill black; crown and front tawnyish; legs black.

Cayanensis. Black; beneath yellowish-white; front and chin red.

Cayenne B.

2. Neck beneath and sides spotted with black.

Inhabits *Cayenne* and *Guiana*; 7 inches long.

Capensis. Rufous; band of the shoulders tawny, of the breast black.

Collared B.

Inhabits *Guiana*; 7¼ inches long.

Bill cinereous; body above rufous, with transverse black lines; neck surrounded with a black band, and above this a larger tawny one; tail-feathers rufous with black bands; legs yellowish.

Elegans. Green; head and chin red edged with blue: quill-feathers brown; throat and breast yellow, the latter spotted with red; belly yellow spotted with green.

Beautiful B.

Inhabits upon the *Amazon*; more active than others of its tribe; size of a sparrow, near 6 inches long.

Bill, legs and claws cinereous, the latter tipped with yellow; each side the mouth a blue streak; tail wedged; quill-feathers edged with green.

Mastorhynchus. Black; front and tips of the tail-feathers beneath white; band on the breast black.

Greater pied B.

Inhabits *Cayenne*; 7 inches long.

Bill large, black, bifid at the tip; legs dusky.

Melanotos. Black; spot on the shoulders, streak behind the eyes, tail at the tip and underneath white.

Lesser pied B.

Inhabits *Cayenne*; 5 inches long.

Bill large, bifid at the tip; front a little white; chin and sides of the neck white; legs dusky.

Philippinus. Green; crown (of the male) and pectoral band red; area of the eyes, chin and throat beneath yellow.

Yellow-throated B.

Inhabits

Inhabits the *Philippine Isles* ; $5\frac{1}{2}$ inches long.

Bill and claws brown ; *plumage* beneath dirty-white with dusky-green longitudinal streaks ; *legs* yellowish.

Female ; area of the eyes, neck and breast yellowish-white ; breast and head without red.

Niger. Black ; beneath white ; over the eyes a yellow streak extending each side to the neck. *Black-throated B.*

2. Body above mixed brown and yellow ; rump shining yellowish ; tail brown edged with yellow.

Inhabits the *Philippine Islands*, 2) the *Cape of Good Hope*.

Lateral feathers of the neck ; and back with a yellow spot ; 4 wing-coverts with a white border, 1 with a yellow border, the others beneath spotted with yellow at the tip ; 4 middle tail-feathers with a yellow border ; bill and legs black.

Parvus. Blackish-brown ; beneath white spotted with brown ; chin yellow. *Little B.*

Inhabits near the *Senegal* ; 4 inches long.

Bill brown ; a white streak from the angles of the mouth beneath the eyes ; legs flesh-colour ; *plumage* above with a yellow cast, of the wings and tail greenish.

Grandis. Green ; lower tail-coverts red. *Grand B.*

2. Dirty-green, beneath greenish ; quill-feathers black ; orbits naked.

Inhabits *China*, 2) *India* ; 11 inches, 2) 10 long.

Bill whitish tip with black, 2) red-brown ; *plumage* of the head and throat inclining to blueish, of the crown and back to bay ; legs dusky-yellow.

Viridis. Green ; head and neck grey-brown ; area of the eyes white. *Green B.*

Inhabits *India* ; $6\frac{1}{2}$ inches long.

Bill whitish ; greater quill-feathers brown ; legs dusky.

Latham. Olive ; quill-feathers and tail dusky ; face and chin tawnyish-brown. *Buff-faced B.*

Length 6 inches ; bill pale ; legs and claws yellow.

Rufus. Brown ; breast with a large triangular white spot. *White-breasted B.*

Inhabits *Cayenne* : size of a lark ; 7 inches long.

Bill brownish-black, yellow at the base ; tail wedged.

Rufica-

- Rubricapillus.* Crown and chin scarlet; back, wing-coverts and tail green; belly white; breast yellow, transversely streaked with black and red. *Red-crowned B.*
 Inhabits Ceylon; $5\frac{1}{2}$ inches long.
Bill dusky; above each eye a black line reaching to the cheek; above the shoulders each side a large whitish space; outer tail-feathers dusky; legs reddish.
- Indians.* Green; beneath white streaked with green; head black; front and throat red; cheeks, chin and spot on the breast yellow. *Indian B.*
 Inhabits India; resembles the last in size.
- Boyanicus.* Green; cheeks naked, yellow; head and neck pale brown. *Yellow-cheeked B.*
 Inhabits Ceylon; $5\frac{1}{2}$ inches long; sits on trees and murmurs like a turtle-dove.
Bill red; legs yellow.
- Dubius.* Black; beneath red; pectoral band and vent black. *Doubtful B.*
 Inhabits the sea-coasts of *Barbary*; 9 inches long.
Bill reddish; legs reddish-brown.
- Cinereus.* Black; beneath cinereous; bill carmine; tail rounded. *Wax-billed B.*
 Inhabits *Cayenne*; $11\frac{1}{2}$ inches long.
Bill compressed, curved; wing-coverts edged with white, a white spine $\frac{1}{4}$ of an inch long at the flexure of the wings; legs dusky.
- Gerini.* Rufous; breast whitish; head, upper part of the back, wings and tail blue; spot on the crown, chin and throat black. *Gerin's B.*
 Length 9 inches; size of a thrush.
Bill strong, and with the legs black; beneath the eyes, and quill-feathers black.

20. CUCULUS. *Bill smooth, a little curved: nostrils surrounded by a small rim: tongue arrowed, short, pointed: feet formed for climbing.* Cuckoo.

• *Canorus.* Cinereous; beneath whitish, transversely streaked with brown; tail rounded, blackish, dotted with white.

Common C.

2. Body above varied with reddish.

3. Grey-waved; middle tail-feathers with a double row of white dots; bill, orbits and legs sulphur.

Inhabits *Europe, Asia and Africa*; 14 inches long; feeds on insects and the larvæ of moths; migrates; is heard about the middle of April, and ceases to sing at the end of July; is not able to hatch its own eggs, and deposits them in the nest of some other bird, generally the hedge-sparrow, and leaves the care of the young to foster-parents; the eggs are reddish-white thickly spotted with blackish-brown.

Edges of the *eyelids*, opening of the *mouth* and *palate* saffron; when young the whole body is brownish, the feathers edged with white.

Capensis. Greenish-brown; beneath white with black lines; checks, chin, throat, tail and upper wing-coverts rufous; tail-feathers tipped with white. *Cape C.*

Inhabits the *Cape of Good Hope*; hardly 12 inches long.

Bill and *legs* brown; *irids* yellow; *quill-feathers* blackish.

Orientalis. Tail rounded; body shining black-green; bill brown.

Eastern C.

2. Body blueish-black; bill black; 14 inches long.

3. Tail wedged; body black; bill yellow; 9 inches long.

Inhabits *India*; 16 inches long.

Legs grey-brown; *claws* black.

Indicus. Tail rounded; body black; wings and tip of the tail with 3 irregular transverse white lines.

Inhabits *India*; 16 inches long; flies in flocks and feeds on insects.

Bill strongish, whitish; *legs* blueish.

Minda

Mindanen. Tail rounded; body green-gold, spotted with pale brown, beneath waved with white and blackish.

Mindanao C.

Inhabits the *Philippine Isles*; 14½ inches long.

Chin and throat brown with white spots; quill-feathers brown, the outer webs with rufous spot, the inner with white; tail brown-gold with transverse rufous bands; some of the tail-feathers white at the tips; legs and claws grey.

Fetula.

Tail wedged; body brownish, beneath testaceous; eyelids red.

Long-billed rain C.

Inhabits woods and shrubberies in *Jamaica*; is easily tamed and sings before rain; flies short, and feeds on insects, worms, seeds, small serpents, frogs, lizards and small birds; 15 inches long.

Bill long, upper mandible black, lower whitish; crown brown; eyebrows with scarlet dots; chin and throat whitish; 2 middle tail-feathers olive-ash, the rest black tipped with white; legs blueish-black.

Pluvialis. Olive-ash, beneath rufous; chin and throat white.

Rain C.

Inhabits *Jamaica*; 16—17 inches long; sings before rain.

Outer tail-feathers edged with white.

Minor.

Olive-ash, beneath reddish; chin white.

Mangrove C.

Inhabits *Cayenne*; 12 inches long; feeds on insects.

Glandarius.

Tail wedged; head subcrested; band over the eyes black.

Great spotted C.

Inhabits *Andalusia*; size of a jay.

Bill black; crest blueish-ash; shoulders, upper wing and tail-coverts brown with small white and pale ash spots; quill-feathers brown; tail blackish tipped with white.

Serratus.

Black with a white ferrate spot on the wings.

Crested black C.

Inhabits the *Cape of Good Hope*; 12½ inches long.

Tail longer than the body; plumage of the thighs lax, long; legs black.

Tahitius.

Brown, beneath white streaked with brown; eyelids white; quill-feathers spotted with rusty.

Society C.

K k 2

Inhabits

Inhabits *Society Islands* ; 19 inches long.

Upper mandible blackish, lower pale ; irids pale yellow ; vent white ; tail wedged, with transverse rusty-brown lines, white at the tips ; legs greenish.

Senegalen- Tail wedged ; body grey, beneath white ; cap and tail-
fis. feathers blackish. *Straight-beeled C.*

Inhabits near the *Senegal* ; 15½ inches long.

Bill black ; rump and upper tail-coverts brown with deeper streaks ; quill-feathers rufous with brownish tips ; legs grey ; the inner hind-claw straight, longer.

Bengalen- Ferruginous with white lines ; beneath yellowish-brown ;
fis. tail wedged. *Lark-beeled C.*

Inhabits *Bengal* ; something larger than a lark.

Bill dusky ; quill-feathers reddish-brown, and except the first and second, with black lines ; outer tail-feathers dusky tipped with brown, the rest with black and narrower brown lines ; legs black ; inner hind-claw long, straight.

Honora- Tail wedged ; body blackish spotted with white, beneath
tus. barred with white and cinereous. *Sacred C.*

Inhabits *Malabar* ; 11½ inches long ; feeds on reptiles, and is on that account preserved with great care by the inhabitants.

Pundla- Tail wedged ; body blackish with rufous dots, beneath ru-
tus. fous with black streaks ; tail-feathers banded with rufous.

Inhabits *India* and *Philippine Isles* ; 16½ inches long.

Bill corneous, from the base of which to the ears beneath the eyes is a rufous band ; legs grey-brown ; claws blackish.

Panaya- Black-brown with rufous-yellow spots, beneath reddish
nus. with transverse black streaks ; chin black ; tail even, *Panayan spotted C.*

Inhabits *Panay* ; much larger than the common cuckow.

Bill black ; irids yellow ; legs lead-colour.

Navius. Tail wedged ; body brown and rusty ; throat with brown streaks ; tail-feathers tipped with reddish. *Spotted C.*

2. Chin grey ; lateral tail-feathers at the tips and belly white. *Inhabits*

Inhabits Cayenne, *2) also Guinea; near 12 inches long.

Upper mandible black at the top, reddish at the sides, lower wholly rufous; body beneath pale rufous; feathers of the crown long, brown, with reddish tips; scrag reddish-grey; quill-feathers grey-brown edged and tipt with rufous; legs cinereous; claws grey-brown.

Punctula-
ta.

Tail wedged; body brown, the tips of the feathers somewhat rufous, beneath dirty-white, *Punctated C.*

Inhabits Cayenne; 9 inches long.

Bill black, an inch long; legs longish.

Ridibundus.

Tawny; chin, throat and breast cinereous; belly, thighs and lower tail-coverts black. *Laughing C.*

Inhabits New Spain: 16 inches long; voice like a man laughing.

Bill blueish-black; irids white; tail half as long as the body.

Guiz.

Crested, yellowish-white; tail and wings brown; head brown in the middle, yellowish at the sides; neck yellowish in the middle, brown at the sides.

Inhabits the woods of Brazil: 14½ inches long; very clamorous.

Bill dusky-yellow, an inch long; irids brown; tail tipt with white; legs sea-green.

Americana.

Tail wedged; body above cinereous, beneath white; lower mandible pale yellow. *Caroline C.*

Inhabits North America; 12 inches long; appears in May and migrates in the autumn; builds in apple trees, and lays 4 blueish-white eggs.

Primary quill-feathers, without brown, within orange; tail-feathers, except the 2 middle ones, tipt with white; legs dusky.

Sceloparia.

Tail wedged; body waved grey and brown.

Indian spotted C.

Inhabits Bengal; 14 inches long.

Bill and legs yellowish dirty-green; quill-feathers and shoulders with transverse brown and rufous streaks; tail reddish, with oblique brown bands.

Maculatus.

Maculatus.

Tail wedged; body above greenish-grey with white spots, beneath varied with brown and white.

Chinese spotted C.

Inhabits *China*; 14 inches long.

Bill above blackish, beneath yellow; head and neck blackish with white spots round the eyes; legs yellowish.

Aster.

Tail wedged; body shining-black; head crested; first quill-feathers white at the base. *Crested black C.*

Inhabits the *Cape of Good Hope*: is probably only a variety of *C. ferratus*.

Melanoleucos.

Black, beneath white; tail wedged, tip with white; wings with a white spot; head subcrested.

Coromandel crested C.

Inhabits *Coromandel*; 11 inches long.

Bill black; legs dusky.

Pisanus.

Tail wedged; body above varied with white and black, beneath white; head black, crested; chin and breast rufous. *Pisan C.*

This bird was once only caught in *Pisa*, and was something larger than the common cuckow.

Bill greenish-brown; lower tail-coverts rufous; quill-feathers reddish; tail-feathers black, each side tip with white; legs greenish.

Madagascarensis.

Olive waved with brown, beneath tawny; chin olive tempered with yellow. *Great Madagascar C.*

2. Cap black; crown naked, blue, wrinkled.

Inhabits *Madagascar*; 21½ inches long.

Bill black; irids orange; hind-part of the belly and lower tail-coverts brown; thighs cinereous; tail 10 inches long, some of the lateral feathers tip with white; legs yellowish-brown.

Chrysocapillus.

Head yellow; breast and shoulders lead-colour; quill-feathers black; tail yellowish-brown with numerous black bars. *Yellow-headed C.*

Inhabits *South America*. *Cim. Phys.* 91. tab. 48.

Lower part of the back pale brown; rump straw-colour; breast and upper part of the belly cinereous waved with brown.

Dominicus.

Domini- Tail wedged; body grey-brown, beneath whitish; 3 lateral tail-feathers tipped with white. *St. Domingo C.*
cus.

2. Beneath clear white.

Inhabits *St. Domingo, Guiana and Louisiana*: $10\frac{1}{2}$ inches long. Quill-feathers rufous, edged and tipped with grey-brown: tail-feathers, except the 2 middle ones black, white at the tips and outer edges: bill, legs and claws grey-brown.

Cayanus. Tail wedged; body purplish-chestnut, beneath cinereous; all the tail-feathers tipped with white. *Cayenne C.*

2. Beneath purplish; $10\frac{1}{2}$ inches long.

3. Bill red; head cinereous; chin and breast rufous; belly ashy-black.

Inhabits *Cayenne*, near rivers: nearly 16 inches long: easily tamed.

Bill, legs and claws grey-brown: quill-feathers tipped with brown: tail-feathers chestnut, near the tip black, tipped with white: tail 10 inches long.

Tranquil- Black, beneath inclining to cinereous; tail wedged; upper wing-coverts edged with white. *Cayenne black C.*
lus.

Inhabits *Cayenne*: 11 inches long: solitary.

Bill and irids red.

Tenebro- Black; belly and thighs rusty; rump and vent white; tail even. *White-rumped black C.*
sus.

Inhabits *Cayenne*: $8\frac{1}{4}$ inches long: frequents trees growing near the water side; feeds on insects: builds in hollow trees or on the ground.

Bill dusky, subulate: nostrils surrounded by about 10 bristles, mouth by about 8: between the breast and belly an orange bar: legs short, yellow.

Pyrrhoc- Black, beneath white; crown scarlet, surrounded by a circle of white; tail long, tipped with white.
phalus.

Red-headed C.

Inhabits *Ceylon*: feeds on fruit: 16 inches long.

Bill curved, greenish-yellow: head and neck with small white spots: legs blueish.

Indus. Tail rounded; body blue. *Blue C.*

Inhabits *Madagascar*: 17 inches long.

Bill, legs and claws black: wings and tail with a green and violet cast.

Sinensis.

Sinensis. Tail long, wedged; body blue, beneath white; tail-feathers with a white spot at the tips. *Chinese C.*

Inhabits China; 13 inches long.

Bill, irids, legs and claws red; crown white dotted with blue; the rest of the head and chin blackish; a white round patch on the cheeks.

Afer. Brass-green, beneath shining grey; head and neck cinereous; crown blackish-brass; tail even, green-gold, beneath black. *African C.*

2. Brown, beneath reddish; head and neck with transverse brown and rufous streaks.

Inhabits Madagascar; 15 inches long.

Bill straight, blackish, 2 inches long, from which to the eye each side runs a black line; greater quill-feathers blackish, the lesser obscure green; legs reddish; claws black.

Cupreus. Golden-copper; belly and thighs yellow. *Cupreous C.*

Inhabits Africa? size of a lark. *Lev. Mus. 159.*

Tail wedged, one or two of the outer feathers each side with a triangular white spot at the extremity; bill and legs black.

Indicator. Rusty-grey, beneath white; eyelids naked, black; shoulders with a yellow spot; tail wedged, rusty.

Honey-guide C.

Inhabits the interior parts of Africa; 6 inches long; is fond of honey, and not being able to procure it from the hollows of trees, by its note is said to point it out to the inhabitants, who leave a part for its services, and so highly value it upon this account that it is criminal to destroy it.

Bill brown at the base and surrounded with bristles, yellow at the tip; feathers of the thighs white, with a longitudinal black streak; quill-feathers above brown, beneath grey-brown; first tail-feathers very narrow, rusty; the next footy, the inner edge whitish, the rest brown at the tip on the inner web.

Persa. Tail equal; head crested; body bluish-green; quill-feathers blood-red. *Mexican C.*

Inhabits various parts of Africa; feeds on vegetables and fruit.

Bill red, short, subconic, the mandibles serrate; tongue cartilaginous, flat, acute; irids bay; band across the eyes black, with a white line above and beneath; eyelids surrounded with red caruncles; nostrils covered with recumbent feathers. Varies in having a blackish pendent crest, which is sometimes green and rather erect, varied with white.

Regius

R. Aus. Black with a blue gloss; quill-feathers crimson; bill red, with a yellow front; back of the head purple.

Royal C.

Inhabits the interior parts of *Africa*; resembles the last.

Bill and *tongue* as in the last; from the hind-part of the *mandibles* each side a stripe of white runs towards the nape; *quill-feathers* carmine; *legs* brown.

*Brasilien-
fis.* Tail subequal; head crested; body red; quill-feathers yellowish. *Red-crested C.*

Inhabits *Brasil*; 10 inches long.

Bill pale red; *crest* red varied with black, *belly* mixed with yellowish; *quill-feathers* and *tail* yellow with a shade of black.

Cristatus. Tail rounded; head crested; body shining greenish-ash.

Madagascar crested C.

Inhabits *Madagascar*; 14 inches long.

Bill and *legs* black; *irids* orange; *breast* claret; *belly* whitish with a rufous gloss; *wings* and *tail* beneath cinereous; *outer tail-feathers* tipped with white.

Aegyptius. Brown, beneath tawny-white; head, neck and wedged tail green; wings rufous. *Egyptian C.*

Inhabits *Egypt*; 14—16 inches long; feeds on locusts.

Bill black; *irids* shining red; upper *tail-coverts* rufous inclining to green; 3 last *quill-feathers* rufous, the rest shining green at the tip; *legs* blackish.

2. Shining black; wings rufous.

This is probably the *male* of the last.

3. Tail black; wings tawny with an obtuse thorn at the flexure; inner hind-claw straight, subulate.

Inhabits *China*.

Radiatus. Black-brown, beneath yellow with black lines; chin and cheeks claret; crown blackish-grey. *Panayan C.*

Inhabits *Panay*; size of the common cuckow.

Bill black; *irids* orange; lower part of the *wings* spotted with white; *tail* black, tipped and streaked with white, equal; *legs* reddish.

*Polioc-
phalus.* Tail a little wedged; body above brown-ash, beneath white barred with grey; tail-feathers black with dusky bars. *Grey-headed C.*

Inhabits *India*; very much resembles the last.

Sonneratii. Banded with black; above rufous-brown beneath white; tail-feathers spotted with black. *Sonnerat's C.*
Inhabits India; size of a blackbird.
Bill, irids and legs yellow.

Hepaticus. Tail wedged; body undulate with brown and black; rump ferruginous; bill, tips of the wings and bands on the tail black, beneath whitish waved with black; legs yellow. *Liver-coloured C.*
Length $13\frac{1}{2}$ inches; tail-feathers rusty-brown, barred with black, tip with white, and with a small white terminal spot.

Flavus. Testaceous, beneath yellowish; crown and chin pale grey; tail wedged, black with white lines. *Yellow-bellied C.*

Inhabits *Punay*; above 8 inches long.
Bill and legs yellowish, the former tip with black; irids yellow.

Auratus. Tail wedged, body above gold-green, beneath white; 5 streaks on the head, wing-coverts, secondary quill and tail-feathers at the tips white. *Gilded C.*
Inhabits the *Cape of Good Hope*; 7 inches long.
Bill greenish-brown; legs grey.

Lucidus. Above green, beneath white; each side a green-gold lunule; quill-feathers and tail brown. *Shining C.*
Inhabits *New Zealand*; 7 inches long.
Bill and legs blueish; irids bay; lower tail-coverts white.

Coromandus. Tail wedged; body black, beneath white; collar clear white. *Colared C.*
Inhabits *Coromandel*; $12\frac{1}{2}$ inches long.
Bill and legs cinereous; irids yellowish; head crested, with a small round grey spot each side; chin and thighs blackish; first quill-feathers rufous, the second blackish, edged with rufous; tail blackish-brown.

Cornutus. Tail wedged; crest bifid; body sooty. *Horned C.*
Inhabits *Brazil*; 12 inches long.
Bill greenish-yellow; irids blood-red; crest moveable, resembling horns; body beneath, legs and claws cinereous; tail tip with white.

Discolor.

Bicolor. Reddish-brown; crest bifid, orange; 2 outer tail-feathers white, the rest tipped with white.

Inhabits the East Indies. *Cim. Phys.* 95. tab. 51.

Paradisus. Two outer tail-feathers very long, dilated at the tip; head crested; body green. *Paradise C.*

Inhabits Siam; 17 inches long.

Bill blackish; irides blue; legs and claws grey.

Tolu. Blackish; rump and belly greenish-black; shoulders and quill-feathers chestnut; tail wedged, black-green, beneath black. *Long-heeled C.*

Inhabits Madagascar; 14½ inches long.

Bill brown; feathers of the head and neck rigid, marked with a longitudinal rufous-white streak; wing-coverts chestnut, the shafts purplish; legs and claws black; the inner hind-claw long, straight, subulate.

21. YUNX. Bill smootish, pointed, a little incurved, weak: nostrils concave, naked: tongue very long, smooth, worm-shaped, armed at the point: tail-feathers 10, flexible: feet climbers.

**Torquile.* Grey varied with brown and blackish; belly reddish-white with blackish-spots; tail-feathers waved with black spots streaks and bars. *Wryneck.*

2. Above rusty with transverse spots, beneath whitish with longitudinal yellow streaks.

Inhabits Europe, Asia and Africa; lives about the trunks of rotten trees, and feeds on the larvæ of insects and ants; migrates, and is perpetually twisting its neck round and looking about; eggs 8—10, ivory-white, pellucid; 7 inches long.

22. PICUS. *Bill* angular, straight, wedged at the tip: *nostrils* covered with recumbent setaceous feathers: *tongue* round, worm-shaped, very long, bony, missile, daggered, beset at the point with bristles bent back: *tail-feathers* 10, hard, rigid, pointed: *feet* climbers. *Wood-pecker.*

The birds of this genus climb up and down trees in search of insects, which they transfix and draw out from the clefts of the bark by means of the tongue, which is bony at the end, barbed, and furnished with a curious apparatus of muscles for the purpose of throwing it forwards with great force. They build in hollows of decaying and dead trees, which they perforate with the hard wedge-like bill.

• *Martius.* Black; cap vermillion.

Greatest black W.

Inhabits *Europe, Siberia* and *Chili*; though seldom visits *England*; is found chiefly among poplar trees; builds a large and deep nest, and lays 2—3 white eggs; feeds principally on bees and ants; 17—18 inches long.

Female, the hind-head only red.

Lignarius. Cap vermillion; body barred with white and blue.

White-bellied W.

Inhabits *Chili*; less than a blackbird.

Principalis. Black; crest scarlet; line each side the neck and secondary quill-feathers white. *White-billed W.*

Inhabits *America*, from *New Jersey* to *Brazil*; 16 inches long; makes spiral holes in trees.

Bill ivory, 3 inches long; *irids* yellow; crest conic; lower part of the back white.

Female, cap not coloured.

Pileatus.

Black; crest red; temples and wings spotted with white *Pileated W.*

Inhabits the woods of *North America*; 18 inches long.

Bill 2 inches long, upper mandible dusky, lower whitish; *irids* golden; crest surrounded with a brownish line; fr

the eyes a black stripe extending to the hind-head, and beneath this a brownish line from the insertion of the bill through the neck to the origin of the wings; *chin* white; *legs* dusky.

Female, front brown.

2. Belly obscurely barred with white.

Lineatus. Black; crest scarlet; a white line from the bill down the neck and as far as the middle of the back.

Lineated W.

Inhabits *Cayenne*; near 14 inches long.

Body beneath reddish-white with black bars; *bill* half an inch long, corneous, the lower jaw with a scarlet stripe; *head* scarlet; *cheeks* somewhat cinereous; *chin*, *belly* and *vent* tawny-white, with transverse black streaks; *tail* wedged; *legs* and *claws* grey.

Rubricollis. Brown, beneath tawny; crested head and neck blood-red.

Red-necked W.

Inhabits *Cayenne*; 16 inches long.

Bill pale; *legs* lead-colour.

Melano-leucos. Black; body beneath, line each side the neck, nape and rump white; hind-part of the crest brownish-yellow.

Buff-crested W.

Inhabits *Surinam*; 12½ inches long.

Legs and *belly* dirty-white with transverse black lines.

Hirundinaceus. Black; cap scarlet; shoulders dotted with white.

Lesser black W.

Inhabits *North America*; 5½ inches long.

Bill brown; *irids* whitish; angles of the wings and hind-part of the *belly* white.

2. Middle of the breast red; belly varied with black and grey.

Inhabits *Cayenne*; lower part of the *back* and *rump* white; *female*, without red or yellow.

3. Crown with a red spot; area of the eyes white; hind-head golden.

Inhabits *Cayenne*.

Area of the *breast* red; *vent* streaked with black and white; some of the secondary *quill-feathers* dotted with white at the tips.

Female, the whole head black; eyelids white.

Passer-

Passerinus. Yellowish-olive, beneath barred with brown and whitish.
Passerine W.

Inhabits *St. Domingo*; 6 inches long.

Bill, legs and claws grey; crown red; temples reddish-grey; some of the greater wing-coverts with an ochre spot; inner edge of the greater quill-feathers brown indented with white.

Striatus. Black streaked with olive, beneath olive; front, cheeks, chin, throat and breast grey; crown, hind-head, rump and upper tail-coverts red *Rayed W.*

2. Crown black.

Inhabits *St. Domingo*; near 9 inches long.

Bill corneous; quill-feathers blackish, the outer web yellow, the inner spotted with whitish; legs and claws blackish.

Melano-chloros. Variegated with black and yellow; crest gold; tail black.
Gold-crested W.

Inhabits *Cayenne*; 13 inches long.

Bill dusky; cheeks reddish; between the base of the bill and eyes a purple spot.

2. Crown black; crest red; middle tail-feathers black, the lateral ones barred with tawny and black.

Flavescens. Black barred with yellow; pendent crest, chin, cheeks and neck yellow. *Yellow-crested W.*

Inhabits *Brasil*; size of a jay.

Crest long, lax; legs dusky-green; belly and tail black.

Cayanensis. Olive, the feathers towards the tip with a black spot; crown, chin and tail black; hind-head red; cheeks whitish; belly yellowish. *Cayenne W.*

Inhabits *Cayenne*; $7\frac{1}{2}$ inches long.

Bill blackish; chin spotted with white; thighs and lower tail-coverts with a few black spots; shoulders and wing-coverts with transverse blackish streaks; wing-feathers blackish with yellow shafts; 2 outer tail-feathers with yellow shafts, and black and rufous lines; legs grey.

Flavicans. Yellowish; crested; quill-feathers brown; tail black. *Yellow W.*

Inhabits *Cayenne*; 9 inches long.

Bill whitish; feathers sometimes whitish; wing-coverts brown, edged with yellow.

Male with a red maxillary band.

Cinnamo-

Cinnamomeus.

Cinnamon, with a few yellowish spots; crest and lower part of the back yellow; tail black.

Ferruginous W.

Inhabits Cayenne, Guiana and Carolina: 11 inches long.

Quill-feathers within spotted with black.

Male, with a red maxillary band.

Multicolor.

Crested; rufous; beneath pale rusty; head, chin and neck orange; nape, throat, breast and spots on the wings black.

Black-breasted W.

Inhabits Cayenne and Guiana: 11 inches long.

Bill pale; spots on the tail and tip black; legs plumbeous.

Erythrocephalus.

Head wholly red; wings and tail black; belly white.

Red-headed W.

Inhabits North America: 9½ inches long; migrates, and feeds on acorns, fruit and Indian corn.

Bill lead-colour; back black; secondary quill-feathers white, with 2 black transverse bars; legs black.

Female, head brown.

Ruber.

Head, neck and breast red; back and wings black; belly ochre.

Red-breasted W.

Inhabits Cayenne: something less than the last.

Bill horn-colour, with a brownish line from the nostrils to the eyes; many of the lesser wing-coverts dotted with white, some of the greater white on the outer web, lower variegated white and black; quill-feathers black spotted with white.

Obscurus.

Dusky, streaked and waved with whitish, beneath white; first quill-feathers black, secondary white with 2 black bars.

White-rumped W.

Inhabits Long Island: 9 inches long.

Bill corneous; greater wing-coverts black; rump white; legs black.

Fasciatus.

Black; crown, lores and submaxillary band scarlet; belly streaked white and black; tail-feathers white at the tip.

Striped-bellied W.

Length 8 inches; orbits white; cheeks streaked with black.

Aurantius. Above orange; nape, rump and tail black.

Orange W.

Inhabits

Inhabits the *Cape of Good Hope* : 10½ inches long.

Bill, legs and claws lead-colour : *crown and hind-head* black : each side from the nostrils below the eyes and reaching to the sides of the neck a white stripe : *cheeks, chin and throat* dirty-grey : lower part of the *back* blackish : *breast and belly* dirty-white : *quill-feathers* brown, some of them spotted with white.

Senegalensis. Front and cheeks brown ; cap red ; back and quill-feathers reddish-gold ; body beneath grey, undulate with brown and white. *Gold-backed W.*

Inhabits near the *Senegal* : hardly larger than a sparrow.

Bill and legs blackish : *tail-feathers* black, the lateral ones spotted with yellow.

Capensis. Grey ; back, neck and breast olive ; quill-feathers dusky ; rump and upper tail-coverts red ; tail-feathers black. *Cape W.*

Inhabits the *Cape* : less than a lark.

Bill and legs plumbeous.

2. Back and wings olive-brown ; cap, rump and belly red.

Inhabits *Africa*.

Bill and legs black : *wings and tail* blackish.

Auratus. Transversely striate with black and grey ; chin and breast black ; nape red ; rump white. *Gold-winged W.*

Inhabits *North America* : 11 inches long : migrates to *Hudson's Bay* : feeds on worms and ground insects, and for want of these on berries and grass : does not climb trees.

Bill black, round, a little curved : *hind-head and cheeks* red : upper part of the *breast* with a black lunule : rest of the breast and belly whitish spotted with black : *back and wing-coverts* pale brown with black lines : first *quill-feathers* cinereous, beneath and shafts golden : *tail* black, edged with white : *legs* dusky.

Female, chin cinereous.

Casfer. Above brown, beneath claret dotted with black ; wings beneath, and shafts of the wings and tail vermillion. *Gold-winged W.*

Inhabits the *Cape of Good Hope* : less than the last.

Bill brown, rather bent, with a red streak each side : *tail* pointed, the feathers forked at the end.

Olivaceus.

Olivaceus. Olive; neck beneath, breast and rump pale red; chin, throat, quill-feathers and vent dusky-brown; tail above black. *Crimson-breasted W.*

Inhabits the *Cape of Good Hope*; 10½ inches long.

Bill a little bent, black; shafts of the wings and tail yellowish; tail-feathers beneath olive-brown with forked tips; legs black.

Carolinus. Cap and nape red; back with black bands; middle tail-feathers white dotted with black, the rest black.

Carolina W.

2. Front and cheeks pale brown; belly pale yellowish-brown.

3. Spots on the chin and under the eyes red.

4. Black and white; cap, nape and belly red; front and neck beneath yellow-grey; sides of the neck from the mouth with a black line.

Inhabits *North America*; 10½ inches long.

Bill, legs and claws black; irids bay; crown (of the female) rufous-white; cheeks yellowish; chin and throat olive; lower part of the belly with transverse brown lines.

Undatus. Testaceous waved with black; temples blood-red.

Red-cheeked W.

Inhabits *Guiana* and *Surinam*; 9 inches long.

Bill brownish; legs dusky.

Rufus. Rufous waved with black; wings, tail and body beneath deeper. *Rufous W.*

Inhabits *Cayenne* and *Guiana*; 6 inches long.

Bill pale; legs lead-colour.

2. Breast black; under the eyes a large black spot.

Chlorocephalus. Olive, beneath spotted with white; neck and subcrested head yellow; crown red. *Yellow-headed W.*

Inhabits *Guiana*; 6 inches long.

Bill and legs plumbeous; from the angles of the mouth a red line.

Miniatus. Crested; red, beneath white; throat rosy; bill and tail blue; tail-coverts green. *Red-winged W.*

Inhabits *Java*; 9 inches long.

Spot on the chin yellow; quill-feathers black with large white spots; legs dusky.

Malaccen- Crested head and shoulders scarlet; chin and throat rufous-
fs. yellow; body beneath barred with black and white;
 tail black. *Malacca W.*

Inhabits *Malacca*; about 13 inches long.

Bill black; irids red; rump greenish-yellow with black bands;
 tail-feathers dusky-red, within spotted with white.

Pitius Brown dotted with white; tail short.

Inhabits *Chili*; has the appearance of a pigeon, and builds, not
 in the hollows of trees, but on the banks of rivers and decli-
 vities of mountains; lays usually 4 eggs.

Viridis Green; crown crimson.

Green W.

2. Upper part of the head and spots beneath the ears deep red;
 rump pale yellow.

Inhabits *Europe*, 2) *Mexico*; 13 inches long; makes a circu-
 lar hole in the dead parts of trees for its nest; and lays 5—6
 greenish eggs spotted with black; is fond of bees.

Bill dusky, 2 inches long; inner circle of the irids reddish,
 outer white; temples blackish; quill-feathers dusky with
 whitish spots; tail blackish, obscurely barred with green and
 tipped with white; legs greenish-ash.

Bengalen- Green; crest red; nape black; front and throat variegated
fs. white and black; body beneath white. *Bengal W.*

Inhabits *Bengal*; 8½ inches long.

Bill and legs blackish; fore-part of the face, neck beneath, and
 breast white with black spots; tail black; each side from the
 eyes a stripe extending to the neck.

2. Head with numerous white spots; back black, scarlet in
 the middle.

Inhabits *Ceylon* and *China*; a little larger.

Body green; fore-part of the wings red.

Quadrima- Green; beneath blueish; crown and rump yellow; throat,
culatus. quill and tail-feathers black. *Blue-throated W.*

Inhabits *Ceylon*; size of *P. viridis*. *Cim. Phys.* 99. pl. 54.

Breast and belly blueish-ash; under the throat a large oval patch
 of glossy blue-black; throat surrounded by a band of white;
 legs olive.

Philippi-

Philippinensis. Brown-green; crested; beneath spotted with white and black; rump red; tail-feathers with 2 white spots. *Philippine W.*

Inhabits *Manilla*; size of *P. viridis*.

Goensis. Green, beneath whitish; crown and crested hind-head red; tail and fillet reaching from the eyes to the wings black; wings golden. *Goa W.*

Inhabits *Goa*; very much resembles *P. bengalensis*.

Bill black; *hind-head* surrounded by a white line; lesser wing-coverts black; lesser quill-feathers varied with black and white; feathers beneath edged with black; legs lead-colour.

Manillensis. Dirty-green; crown spotted with grey; wings and tail blackish; upper tail-coverts red. *Manilla green W.*

Inhabits *Manilla*. *Bill* and legs blackish.

Gartensis. Above grey-brown, beneath yellowish-grey; wings with dirty-white spots; crown and rump red.

Crimson rumped W.

Inhabits near the *Senegal*; much less than *P. viridis*.

Bill and legs lead-colour.

Canus. Cinereous, front obscurely spotted with red; back, shoulders, wing and tail-coverts green; rump yellow; wings and tail brown; chin whitish.

Grey-headed green W.

Inhabits *Norway*, *Russia* and *Siberia*; size of *P. viridis*.

Bill yellowish at the base; quill-feathers with yellowish spots; tail streaked with dusky; legs and claws black.

Persicus. Pale yellow; body above, tips of the quill-feathers and area of the eyes ferruginous. *Persian W.*

Inhabits *Persia*; size of *P. viridis*.

Bill long, ferruginous; legs blueish; claws black.

Semirostris. Brown-ash, beneath white; head brown spotted with yellowish; upper mandible shorter. *Half-billed W.*

Inhabits *India*; size of a martin.

Bill pale, the short upper mandible probably only a *lusus naturæ*; tail and wings brown; quill-feathers spotted with white at the outer edge.

Pubescens. Back longitudinally downy; outer tail-feathers white with 4 black spots *Downy W.*

Inhabits *North America* in vast flocks; is bold, and very injurious to orchards by piercing and destroying the trees; size of a sparrow.

Male with a red hind-head,

Villosus. Back somewhat downy, longitudinally; outer tail-feathers entirely white. *Hairy W.*

Inhabits *North America*, from *Hudson's Bay* to *Carolina*; 9—12 inches long, and is, like the former, a pest to orchards.

Bill horn-colour; head black with a transverse red bar (in the male); cheeks with 2 white and 2 black lines; back black with white spots disposed in rows; 2 middle tail-feathers black, the rest decussate with white streaks.

• **Major.** Variegated with black and white; vent and hind-head red. *Greater spotted W.*

Inhabits *Europe*, *North America* and *Siberia*; 9 inches long.

Bill blackish, corneous at the base; irids red; front brown-yellowish; cheeks, shoulders, breast and belly yellowish-white; 4 middle tail feathers without spots.

Female, without red on the hind-head.

• **Medius.** Variegated with white and black; vent and cap red. *Middle spotted W.*

Inhabits *Europe*; 8½ inches long, perhaps the young of the last.

Cheeks white; 3 lateral tail-feathers tipped with white.

• **Minor.** Variegated with white and black; crown red; vent testaceous. *Lesser spotted W.*

Inhabits *Europe* and *Asia*; 5½ inches long.

Back with black and white lines; wings with broad white blotches; female white on the crown.

2. Crown, nape and scrag black-grey; body beneath yellowish, spotted with black.

Inhabits *Panay*; probably a variety of the female.

3. Hind-head subcrested; crown with a crimson spot; front, cheeks and body beneath white.

Inhabits *Ceylon*; something less.

Tricolor.

- Tricolor.** Black with white transverse streaks; breast and belly red.
Varied W.
 Inhabits *New Spain*: size of *P. medius*.
- Canadensis.** White; crown, back, shoulders and 2 middle tail-feathers black, the other tail-feathers and wings varied with black and white.
Canada spotted W.
 Inhabits *Canada*: 9 inches long.
 Bill horn-colour; above and beneath the eyes a white fillet.
- Varius.** Variegated black and white; crown red; vent white barred with brown.
Yellow-bellied W.
 Inhabits *North America*: 9 inches long; is very numerous, and very destructive to corn and fruits.
 Female, without red on the crown; crown (of the male) surrounded by a black line; chin red; breast and belly yellowish, the latter spotted with black; wing-coverts black, with 2 transverse white lines; tail black.
- Flavipes.** Black, beneath white; legs yellow.
Yellow-legged W.
 Size of *P. minor*; hind-head black; upper edge of the wings white.
- Bicolor.** Varied with grey and white; sides of the crested head white; quill-feathers brown spotted with white.
Encenada W.
 Inhabits *America* and *Encenada*: 6 inches long.
 Bill and legs plumbeous; irids white; body above transversely, beneath perpendicularly varied.
 Female totally brown, and with a crest.
- Cardinalis.** Black, beneath white spotted with black; crown and hind-head red.
Cardinal W.
 Inhabits *Luzonia*: size of *P. viridis*.
 Bill and legs black; front grey; quill and tail-feathers with yellow shafts and spotted with white at the edge.
- Nubicus.** Variegated with white, rufous and brown; crown black, spotted with white; hind-head subcrested, red; breast whitish with black dots; tail with rufous brown lines.
Nubian W.
 Inhabits *Nubia*: 7½ inches long.
 Bill black; irids pale brown; front brownish; chin and vent whitish; legs glaucous.
Moluccensis.

Moluccan-fs. Black-brown waved with white; beneath whitish, arrow-streaked with brown; quill and tail-feathers brown, spotted with white. *Brown W.*

Inhabits the *Malucca Islands*; size of *P. minor*.

Bill and *legs* dusky; *cheeks* white; beneath the eyes a brown spot.

2. Black-brown spotted with white; beneath and head white; crown and spot beneath the eyes brown.

Inhabits *India*: 5 inches long.

Bill pale; *legs* blue.

Minut. Chestnut-grey, beneath whitish waved with brown; crown red; hind-head black spotted with white. *Minute W.*

Inhabits *Cayenne*: the least of its tribe; $3\frac{1}{2}$ inches long.

Tridactylus Variegated black and white; feet 3-toed. *Three-toed W.*

2. Variegated black and white; beneath white.

Inhabits *America*, *Europe* and *Sicily*, 2) *Cayenne*: 11 inches long.

Crown gold or red; *irids* glaucous; *cheeks* with 3 black and 2 white longitudinal lines; *hind-head* and *back* black; *wings* and *tail* black; first *quill-feathers* and outer *tail-feathers* spotted with white; *legs* dusky.

23. SITTA. *Bill* subulate, roundish, straight, entire; upper mandible a little longer, compressed and angular at the tip: *tongue* jagged, short, horny at the tip: *nostrils* small, covered with bristles: *feet* formed for walking; hind-toe long. *Nuthatch.*

**Europæa.* Cinereous, beneath reddish; tail-feathers black, the 4 lateral ones beneath tipped with white. *European N.*

2. Less in size.

Inhabits *Europe* and *Asia*: near 6 inches long; climbs up trees, and picks out insects and their larvae from under the bark; perforates and eats nuts; wags its tail like the *motacilla*; builds in holes of trees, stopping up the entrance with clay to a size convenient

venient for the passage of its body ; lays 6—7 dirty-white eggs with reddish spots ; the female is so tenacious of her young, as to be rather taken from the nest than desert them ; sings by night ; the flesh when young very good.

A black line through the eyes and ears ; rump white varied with rusty ; the first tail-feather with a white bar, 2 with a white spot, 3 and 4 tipped with white, 5 colour of the back.

Canadensis. Cinereous, beneath pale rufous ; eyelids white.

Canada N.

Inhabits *Canada* ; hardly 5 inches long.

Behind the eyes a blackish band ; 2 middle tail-feathers ashy-grey, 4 outer ones black, the outer tips cinereous, within white ; vent ferruginous.

Carolinensis. Cinereous, beneath whitish ; lower part of the belly reddish ; head and neck above black ; lateral tail-feathers white varied with black. *Black-headed N.*

Inhabits *America* and *Jamaica* ; 5½ inches long.

Jamaicensis. Cinereous, beneath white ; crown black ; lateral tail-feathers blackish, tipped with transverse white lines.

Jamaica N.

2. Body much less.

Inhabits *Jamaica* ; 5½ inches long ; feeds on insects.

Puffin. Cinereous, beneath dirty-white ; head brown, with a dirty-white spot behind ; lateral tail-feathers black.

Small N.

Inhabits *Carolina* and *Jamaica* ; 4½ inches long ; very stupid.

Major. Grey, beneath whitish ; chin white ; quill and tail-feathers brown edged with orange. *Great N.*

Inhabits *Jamaica* ; 7½ inches long ; feeds on worms.

Bill thicker in the middle, hooked at the tip.

Atia. Above lead-colour, beneath glaucous ; chin white ; wing-coverts spotted with white. *Spotted N.*

Inhabits *Surinam* ; 6 inches long.

Inner wing-coverts dusky, edged with white ; body beneath with longitudinal white lines ; legs dusky-brown.

Surinamensis.

Surinamensis.

Reddish-chestnut, beneath dirty-white; middle of the back white; wings and tail black; wing and tail-coverts tip and secondary quill-feathers edged with white.

Surinam N.

Inhabits *Surinam*: $3\frac{1}{4}$ inches long.

Bill dusky-brown, a little curved; *hind-head* and *neck* with oblong black spots.

Caffra.

Body beneath yellow; above yellow varied with black; legs black.

Cape N.

Inhabits the *Cape of Good Hope*: $8\frac{1}{2}$ inches long.

Bill straightish, a little depressed; *tail-feathers* blackish, beneath olive, tip with yellowish; *claws* yellowish.

Sinensis.

Lower eyelid purple.

Chinese N.

Inhabits *China*: feeds on rice, and is often tamed.

Crested head and bill black; back dusky-brown inclining to blue; belly and breast white, towards the chin black; near the eyes a small scarlet spot, and near this a large snowy blotch; from the temples to the chin a black line; chin white bounded by black; rump yellow; wing-coverts ferruginous; tail-feathers blackish, tip with white.

Longirostris.

Blueish, beneath pale rufous; primary quill-feathers tip with brown; lores black.

Long-billed N.

Inhabits *Batavia*: 8 inches long.

Bill longer than in others of its genus, black, pale at the base; front and cheeks white; from the mouth through the eyes and as far as the sides of the neck a black fillet; legs brown.

Chloris.

Above green, beneath white; tail black, tip with yellowish.

Green N.

Inhabits near the *Cape of Good Hope*: size of *S. surinamensis*.

Bill longer than the head, blackish beneath towards the tip; quill-feathers brown, outer edge greenish, yellowish in the middle, forming a yellowish band on the wings; rump yellowish; tail short.

24. TODUS. *Bill* subulate, depressed, obtuse, straight, covered at the base with bristles : *nostrils* oval, small : *feet* gressorial. *Tody.*

These mostly inhabit the warmer parts of *America* ; are very nearly allied to the genus *Muscicapa*, but are distinguished in having the middle and outer toe much connected, which in the fly-catchers are divided to the base.

- Viridis.* Green, beneath yellowish-rosy ; breast red. *Green T.*
Inhabits *South America* ; 4 inches long ; is solitary, stupid, and feeds on the softer insects.
Upper mandible brown, lower orange ; *irids* chestnut ; cheeks with a red spot ; legs and claws grey.
Male blueish above, beneath white, breast rosy.

- Cinereus.* Cinereous, beneath pale yellow. *Cinereous T.*
Inhabits *Surinam* and *Guiana* ; larger than the last.
Bill dusky, reddish at the base ; front black ; upper wing-coverts and quill-feathers dark brown edged with yellow ; tail wedged, 2 middle feathers black, the rest brown, tip with white (in the male) ; legs flesh-colour.

- Fuscus.* Ferruginous, beneath olive spotted with white ; wing-coverts with a dusky band. *Brown T.*
Inhabits *South America* ; less than *T. viridis*.

- Ceruleus.* Blue ; chin white ; belly orange. *Blue T.*
Inhabits *America* : $3\frac{1}{2}$ inches long.
Bill and legs flesh-colour ; under the eyes a purplish spot.

- Varius.* Variegated with blue, black and green ; bill, head, neck, legs and tail black ; wing-coverts green. *Variegated T.*
Inhabits *India*.

- Leucoccephalus.* Black ; subcrested head and chin white. *White-headed T.*
Inhabits *America*.
Bill blackish, the lower mandible white tip with blackish ; wings short ; tail even.

Brachyurus. Snowy beneath; crown, neck, back and very short tail black. *Short-tailed T.*
Inhabits America, Bill dusky.

Plumbeus. Blackish lead-colour, beneath white; crown, quill and tail-feathers blackish. *Plumbeous T.*
Inhabits Surinam. Outer edge of the quill-feathers white.

Obscurus. Olive-brown, beneath yellowish-white; chin pale. *Dusky T.*
Inhabits North America; feeds on insects; frequents dead trees, and sings delightfully.
Quill and tail-feathers edged with grey; tail even.

Regius. Blackish-brown; beneath reddish; crest chestnut, spotted with white at the tip; chin and eyelids white. *King T.*
Inhabits Cayenne; 7 inches long.
Bill dusky-brown; crest transverse, consisting of 4—5 rows of rounded feathers; wing-coverts reddish-brown; breast with transverse blackish lines; legs flesh-colour.

Cristatus. Crest scarlet tipped with black; body brown, spotted with white. *Crested T.*
Inhabits Guinea; probably only a variety of the last.
Bill depressed, slender, lanceolate, obtuse; body above grey-brown; wing-coverts with a little white; quill-feathers blackish; chin whitish-ash; breast and belly waved with brown and dusky-ash; tail-feathers brown, beneath paler, 2 middle ones blackish.

Ferrugineus. Blackish-rusty, beneath ferruginous; tail brown; temples varied with dusky and white. *Ferruginous T.*
Inhabits Cayenne; 7½ inches long.
Bill black; nostrils oval; eyelids pale; legs dusky.

Novus. Brown, beneath white; breast spotted with brown; chin white. *White-chinned T.*
Bill very much depressed; tail rounded; legs brown, with elevated segments; claws yellow.

Platyrrhus.

Platyrrhyn- Yellowish-brown, beneath yellow ; chin and spot on the
cos. crown white ; wings and tail brown ; bill very large
 and broad. *Broad-billed T.*
Nostrils whitish, broad ; *legs* and claws yellowish.

Macro- Black ; chin, belly, rump and vent red ; bill very broad,
rhynchos. *Great-billed T.*
Bill black-blue, whitish at the tip and edges ; upper *tail-co-*
verts red ; 6 scapular *feathers* white, pointed, incurvate.

Flavica- Brownish-ash, beneath yellow ; bill pale ; legs dusky.
ter. *Yellow-bellied T.*
Inhabits New Holland ; 6 inches long.
Bill short, very much depressed, pale horn-colour, beset at the
 base with a few bristles ; the whole *head, chin, back, wings*
 and *tail* brownish-ash ; *body* beneath from the chin pale yel-
 low ; *legs* dusky-brown.

25. **ALCEDO.** *Bill* triangular, thick,
 straight, long, pointed : *tongue* fleshy,
 very short, flat, pointed : *feet* (in most)
 gressorial. *Kingsfisher.*

The birds of this genus mostly frequent rivers and live on fish,
 which they catch with much dexterity ; they swallow their
 prey whole, but bring up the undigested parts ; their wings
 are short, yet they fly with great swiftness ; the predominant
 colour is blue in its different shades ; nostrils small, and in
 most covered with feathers.

Cristata. Tail short ; body blue, beneath rufous ; crest waved with
 black. *Crested K.*
Inhabits Amboina and Philippine Isles ; 5 inches long.
Bill black, sometimes reddish ; *crest* green, waved with black ;
wing-coverts with glossy blue spots ; *legs* red.

2. *Wing-coverts* without spots.
Inhabits India ; 5½ inches long.

Ferruginea. Tail short ; body yellowish-green ; shoulders, throat and
 rump yellow ; wings and crown blue. *Splendid K.*
Inhabits South America. Cym. Phys. 104. tab. 58.
 N n 2 B:

Bill yellowish-horn-colour; *head* with a bright yellow stripe each side, including the region of the eyes; smaller *wing-coverts* edged with yellow; *legs* reddish-brown.

Orientalis. Green, beneath rufous; crown, chin, stripe across the eyes and quill-feathers blue. *Eastern K.*

Inhabits *India*; $4\frac{1}{2}$ inches long.

Bill red; over the eyes a white streak, with a reddish spot under; outer edge of the *tail-feathers* green; *legs* black.

Inda. Tail short; body green, beneath tawny; pectoral band waved. *Spotted K.*

Inhabits *Guiana*; 7 inches long.

Bill black; above and beneath the eyes a tawny line; wings dotted with white; *legs* red.

Surinamensis. Tail short; body blue, beneath whitish; breast rufous; crown greenish-black with transverse green spots. *Surinam K.*

Inhabits *Surinam* and *Guiana*; less than a blackbird.

Bill black; mouth saffron; back with obscure black lines; feathers of the *breast* tipped with pale blue.

**Ispida.* Tail short; body above blue, beneath tawny; lores reddish; crown waved with black, subcrested. *Common K.*

Inhabits *Europe*, *Asia* and *Africa*, near the banks of rivers; 7 inches long; lays 7 white, pellucid eggs.

Bill black; crown and wing-coverts green with blue spots; tail beautifully blue; *irids* and legs red.

2. Blue-green varied with brown; beneath tawny, chin yellowish.

Inhabits *Senegal*; $6\frac{1}{2}$ inches long.

Erithaca. Tail short; back blue; belly pale yellow; head and rump purple; chin and nape white. *Bengal K.*

2. Less; head and neck orange-red.

Inhabits *Bengal*; above 6 inches long.

Bill and legs red; 2) behind the eyes a purple line.

Purpurea. Purple-blue, beneath reddish-white; chin white; head, rump and tail reddish-gold; behind the eyes a purplish streak. *Purple K.*

Inhabits

Inhabits *India* : size of the last.

Bill and *legs* red ; purplish line terminating in blue.

Madagas- Tail shortish ; body rufous ; chin white ; quill-feathers
carenfis. blackish. *Rufous K.*

Inhabits *Madagascar* ; $5\frac{1}{2}$ inches long.

Bill and *legs* red ; *body* beneath reddish-white ; *tail* blackish, the feathers at the outer edge, and 2 middle ones entirely rufous.

Ceruloc- Blue, beneath rufous ; chin white ; quill-feathers blackish.
phala. *Blue-headed K.*

2. Chin, sides and spot on the breast white.

3. Head and neck reddish-yellow ; belly white.

Inhabits *Madagascar* ; 4 inches long.

Bill and *legs* red ; *crown* shining blue waved with paler.

Bengalen- Blue-green ; beneath rufous ; tail and wings brown ; head
sis. with transverse blue streaks. *Little Indian K.*

2. Legs ; a rufous spot at the base of the upper mandible, and one behind the ears.

Inhabits *Bengal* ; $4\frac{1}{2}$ inches long.

Bill black, the base of the upper mandible flesh-colour ; band across the eyes rufous ; upper *wing-coverts* tipped with blue ; *quill-feathers* and *tail* edged with blue-green ; *legs* red.

Supercilio- Tail longish ; body green, beneath white with a green
sis. band ; eyebrows fulvous. *Supercilious K.*

Inhabits *America* ; 6 inches long.

Bill blackish, the base of the upper mandible reddish ; *chin*, *throat*, inner *wing-coverts* and *flanks* orange ; *quill-feathers* blackish, each side spotted with tawny ; 2 middle *tail-feathers* green, the rest within spotted with white ; *legs* flesh-colour.

Leucorhyn- Blue-green, beneath yellowish ; head and neck chestnut ;
ca. quill-feathers cinereous ; tail above blue, beneath cinereous. *White-billed K.*

Inhabits *America* ; hardly 5 inches long.

Bill whitish ; remotest *wing-coverts* cinereous.

Brazilien- Varied with rufous, bay, brown and white ; greater quill-
sis. feathers and tail rufous with transverse white spots.

Brazilian K.

Inhabits

Inhabits *Brazil*; 7 inches long.

Bill and eyes black; ocular band, legs and claws brown.

Americana. Blackish-green, beneath white spotted with green; throat and breast with a large rufous spot.

White and green K.

Inhabits *Cayenne*; 6 inches long.

Bill black, with a white line from the base, reaching beneath the eyes as far as the hind-head; wings with a few white spots; legs red; female without the fulvous spot.

Bicolor. • Green, beneath reddish-gold; band on the breast waved black and white; wings and tail spotted with white.

Rufous and Green K.

Inhabits *Cayenne*; 8 inches long.

Bill black, from the nostrils to the eyes a rufous streak; collar half rufous; legs red.

Female without the rufous collar or pectoral band.

Maculata. Brown spotted with yellowish, beneath white spotted with brown; chin yellow.

Brazilian spotted K.

Inhabits *Brazil*; size of a sparrow.

Bill red, upper mandible a little longer; legs and claws cinereous.

Ayam. Tail long; crested; blueish; belly white; breast ferruginous; a white spot before and behind the eyes.

Belted K.

Inhabits *Carolina*; 11 inches long; feeds on lizards and fish.

Bill black; chin white; breast with a ferruginous band on the fore-part; thighs rusty; shanks very short; legs brown; outer toe connected with the middle one.

2. Variegated black and white.

Inhabits *Louisiana*.

Feathers of the crest blackish in the middle; before the eyes a white spot; throat and collar white; above the breast a blueish bar, which with the belly is white.

3. Feathers of the breast edged with chestnut, without the band; thighs and vent rufous variegated with white.

Inhabits *Hudson's Bay*; 11½ inches long.

4. Ferruginous, beneath and collar white, near the eyes a white spot.

Inhabits *Guiana* and *Brazil*; size of a thrush.

Torquata.

Torquata. Tail long; subcrested; body blueish-hoary; collar white; wings and tail spotted with white. *Cinereous K.*

Inhabits *Martinico* and *Mexico*: $15\frac{1}{2}$ inches long.

Bill blackish with a reddish base; legs red.

Amazona. Glossy-green, beneath and lunule on the neck white; sides variegated with green; wings and tail spotted with white. *Amazonian K.*

Inhabits *Cayenne*; 13 inches long.

Bill and legs black.

Cayanensis. Blue, beneath white; transverse band beneath the hind-head black. *Cayenne K.*

Inhabits *Cayenne* and *Guiana*; $9\frac{1}{4}$ inches long.

Upper mandible black, lower red; rump light blue; edge of the quill and tail-feathers blue; legs red.

Arreophilis. Violet-blue, beneath white; head, neck, shoulders and tips of the wings black; belly reddish. *Black-capped K.*

Inhabits *China*; 10 inches long.

Bill and legs red; a white collar at the lower part of the neck.

2. Head, neck, wing-coverts and upper part of the back brown, beneath white; lower part of the back, wings and tail blue.

Inhabits *Luzonia*; less than a blackbird.

Lores and collar white; shafts of the feathers brown.

3. Subcrested; black varied with rusty; neck beneath and breast white; belly ferruginous; wings and tail blue-green.

Inhabits islands of the *Pacific Ocean*; 10 inches long.

Bill and legs red; feathers of the head long.

4. Deep blue, beneath white; wing-coverts and quill-feathers blackish; collar white.

Length 11 inches; bill red; legs black; most of the quill-feathers white on the inner side.

Coromanda. Pale violet-rosy, beneath reddish; rump with a longitudinal blueish band; chin white. *Coromandel K.*

Inhabits *Coromandel*; size of a blackbird.

Bill, irids and legs red; quill-feathers within reddish-yellow.

Tuta. Tail long; above olive, beneath white; eyebrows white; collar greenish-black. *Respected K.*

Inhabits

Inhabits *Society Islands*; $8\frac{1}{2}$ inches long; is held sacred by the inhabitants.

Bill black, lower mandible white; legs black.

Venerata. Brown, beneath pale; tail rounded; quill-feathers, coverts, and tail-feathers edged with green.

Venerated K.

Inhabits *Society Islands*; 9 inches long; sacred.

Bill black, upper mandible white at the base; shafts of the quill and tail-feathers bay; legs dusky.

Sacra. Pale blue-green, beneath white; eyebrows pale rusty; wings and tail blackish. *Sacred K.*

2. Eyebrows white.

3. Crown greenish-black; beneath and nape pale rusty.

4. Head black; crown blue; eyebrows, neck and belly yellowish; wings and tail blue.

5. Collar white.

Inhabits *Society Islands*, 4) *New Zealand*, 5) *Philippine Islands*; $9\frac{1}{2}$ inches long; regarded as sacred by the natives.

Bill plumbeous 5) black, lower mandible white, 5) yellowish at the base; beneath the eyes a narrow rusty-orange streak, beneath this on the nape a blue one, 2, 3) black: feathers of the neck and sides of the breast white, 2) cinereous, 3) edged with dusky; chin in 3) white; 4) chin and neck white; 5) vent black; quill-feathers and outer edge of the tail blue; 3) rump pale blue; legs black, 3) dusky, 4) brown, 5) blackish.

Chlorocephala. Green; neck white; collar black; wings and tail fea-
green. *Green-headed K.*

Inhabits *Molucca Islands*: 9 inches long.

Bill, tail beneath and legs blackish.

Collaris. Green-blue; beneath and collar white. *Collared K.*

Inhabits *Philippine Islands*; less than a blackbird.

Bill black, the base beneath white; legs black.

Cerulea. Blue, beneath rufous; eyebrows and collar white.

White-collared K.

Inhabits *India*: 7 inches long.

Bill grey, blackish towards the tip; under the eye a rufous spot; chin pale rufous; rump and upper tail-coverts fine green; legs grey; claws blackish.

Fusca

Fusca.

Crested; olive, beneath whitish obscurely striate; temples and hind-head dirty-white; tail rounded with rusty and steel-blue lines, and tip with white.

Great brown K.

Inhabits *New Guinea*; 18 inches long.

Upper mandible black, lower white, black at the base; crest brown, streaked with paler; cheeks and sides of the neck blackish; lower part of the back and rump sea-green; quill-feathers blue at the outer edge, within and at the tip black; legs yellow; claws black.

Female crest 0; crown blackish; collar white; back entirely olive; quill-feathers greenish-brown; legs blackish.

Capensis.

Tail long; body ashy-blue, beneath tawny; breast testaceous; bill red.

Cape K.

Inhabits the *Cape of Good Hope*; 14 inches long.

Bill blackish at the tip; head inclining to tawny; legs red.

Macrura.

Subcrested; body dark plumbeous spotted with white; chin white; throat black; breast and belly blood-red.

Great African K.

2. Blackish-grey spotted with white; beneath rufous, the hind-part white.

Inhabits *Africa*; size of a crow.

Bill black; nostrils linear; sides of the neck with a white dash; quill and tail feathers black spotted with white.

Female, throat rusty; body beneath white with transverse black lines.

Senegalensis.

Tail long; body blue, beneath white; head hoary; wing-coverts black.

Senegal K.

Inhabits *Senegal* and *Arabia*; 9 inches long.

Upper mandible red, lower and legs black.

3. Head and neck white; body beneath rusty; wings black with a blue bar; tail blue.

Inhabits *St. Jago* and *Abyssinia*; 9 inches long; feeds on crabs.

Bill and legs red; irids hazel.

4. Head and neck blueish-white; body above blue, beneath rufous; wings black, in the middle blue.

Inhabits *Senegal*; 7 inches long. Bill and legs black.

*Cancro-
phaga.*

Tail long; body blue-green, beneath yellowish-tawny; band through the eyes, wing-coverts and tips of the quill-feathers black.

Crab-eating K.

Vol. I. — O. 2

Inhabits

Inhabits *Senegal*; 12 inches long; feeds on crabs.

Bill and legs rusty-red.

Leuccephala. Blue-green, beneath head and neck white inclining to straw-colour; quill-feathers brown. *White-headed K.*

Inhabits *Java*; 12 inches long.

Crown striate with black; quill-feathers edged with blue.

Flavicans. Beneath yellowish; head and back green; bill red; tail blue. *Yellow and Green K.*

Inhabits the *Celebes*; size of a lark.

Smyrnenfis. Tail long; body ferruginous; wings, tail and back green. *Smyrna K.*

Inhabits round *Smyrna*; 8½ inches long.

Bill and legs red; irids whitish.

2. Chestnut; chin yellowish-white; wings and tail blue varied with black.

Inhabits *Madagascar* and *China*; 10 inches long.

Bill and legs red.

3. Above blue-green, beneath white; head, neck and lower part of the belly chestnut.

Inhabits *Bengal*; 10½ inches.

Bill and legs red; irids yellow.

Novæ Guineæ. Black spotted with white.

New Guinea K.

Inhabits *New Guinea*.

Bill, irids and legs black; spots irregular, those on the head, back, wings and tail round, on the neck and belly oblong.

Egyptia. Brown with rusty spots, beneath whitish with cinereous spots. *Egyptian K.*

Inhabits *Egypt*; builds in sycamore trees; feeds on frogs, fish and insects; size of a crow.

Bill blackish; chin pale rusty; upper tail-coverts totally black; tail even, ashy; legs greenish; claws blackish.

Semicarulea. Tail long; hind-part of the back, tail and middle of the wings blue; shoulders black; head and breast cinereous; belly ferruginous. *Yemen K.*

Inhabits near *Yemen* in *Arabia*; a span long.

Bill and legs carmine.

Radiis.

Razis. Tail long; body black varied with whitish; beneath white. *Black and white K.*

Inhabits *Asia* and *Africa*; 11 inches long.

Bill, legs and claws black; *eyebrows* white; feathers of the head and neck black edged with white; greater quill-feathers tipped with black; tail white with a black bar near the tip, the 2 outer feathers with 2 semicircular black spots.

2. Head black, subcrested; through the eyes an interrupted white band; breast with a black band.

Inhabits the *Cape of Good Hope*: less.

Dea. Two longest tail-feathers tapering in the middle; body blueish-black; wings greenish. *Ternate K.*

Inhabits *Ternate Island*: above 13 inches long.

Bill orange; head, neck and wings glossy blue; back and shoulders brown edged with blue; rump and body beneath white inclining to rosy; middle tail-feathers blue, at the base and tips rosy, the rest rosy-white with a brown outer edge; legs and claws reddish.

Tridactyla. Tail short; body above and tail rufous; feet 3-toed. *Three-toed K.*

2. Pale violet-reddish, beneath white; wings black-blue; quill-feathers edged with blue.

Inhabits *India* and *Surinam*, 2) *Luzonia*; 4 inches long.

Bill quadrangular and with the legs reddish; varies sometimes in colour; chin white.

26. GALBULA. *Bill* straight, very long, quadrangular, pointed: *nostrils* oval, at the base of the bill: *tongue* short, sharp-pointed: *thighs* downy on the fore-part: *feet* climbers. *Jacamar.*

Vindis. Tail wedged; body green-gold, beneath rufous; chin white. *Green J.*

2. Tail longer.

Inhabits moist woods of *Guinea* and *Brasil*: size of a lark; 9 inches long; feeds on insects.

Bill 2 inches long, black; *irids* glaucous; legs short, weak, greenish-yellow; claws black.

Grandis. Copper-gold, beneath ferruginous; head and limbs green-gold; tail wedged, longer than the body. *Great J.*
Size of *Picus viridis*.

Paradisæa. Two middle tail-feathers very long; body green-gold; throat and wings beneath white. *Paradise J.*
Inhabits *Cayenne* and *Surinam*: $11\frac{1}{2}$ inches long; flies in pairs, and feeds on insects.
Bill and *legs* black; *head* violet-brown; *tail* much wedged, 2 middle feathers 6, the outer 1 inch long.

Albirostris. Tail even; body green-gold, beneath ferruginous; chin with a triangular white spot, testaceous on the fore-part; bill white. *White-billed J.*
Inhabits *South America*; 7 inches long.
Bill shorter than in others of its genus, blackish at the base; 2 middle tail-feathers green, the rest rufous.

27. MEROPS, *Bill* curved, quadrangular, compressed, carinate, pointed: *nostrils* small, at the base of the bill: *tongue* slender, the tip (generally) jagged: *feet* gressorial. *Bee-eater.*

**Aplaster.* Back ferruginous; belly and tail blueish-green; 2 of the tail-feathers longer; chin pale yellow. *Common B.*
2. *Bill* convex, not carinate; toes not connected at the last joint.
Inhabits *Asia*, *Africa* and *Europe*, discovered in *England* 1794.
Linn. Transact. iii. 333; feeds on the wing, upon bees, gnats, flies and other insects, and in defect of them upon seeds; is gregarious, and builds in the holes of banks, lays 5—7 white eggs; 10 inches long.
Bill black; *irids* red; *front* blue-green; *crown*, *hind-head* and *neck* bay; a black *streak* from the bill to the hind-head; *tail* wedged, the feathers edged within with cinereous; *legs* chestnut; *claws* reddish-black.

Viridis. Green; band on the breast black; chin and tail blue; 2 of the tail-feathers longer. *Indian B.*
Inhabits *Bengal*; $8\frac{1}{2}$ inches long.
Bill and band across the eyes black; *legs* brown.

2. Body

2. Body longer, front blue.
3. Chin yellow; line on the sides of the head black; quill-feathers tipped with brown.
Inhabits *Egypt*.
Bill black, straight; tongue not jagged, but bidentate; legs flesh-colour; tail even.
4. Chin and stripe beneath the eyes blue; tail even.
Inhabits *Philippine Isles*; 2 middle tail-feathers black.
5. Front pale yellow; chin blue.
Inhabits *India*.

Cargener. Yellowish; rump greenish; quill-feathers tipped with red; tail-feathers yellow at the base. *Yellow-headed B.*
Inhabits *Southern Europe*; a little less than *M. apiaffer*.
Band across the eyes black; back and shoulders bay; lesser wing-coverts blueish; greater yellow; quill-feathers black; legs yellow.

Supercilio- Green; frontal line above and beneath the eyes white;
fus. chin yellowish; 2 of the tail-feathers longer.
Supercilious B.

2. Bill slenderer; tail even; rump and tail blue-green.
Inhabits *Maddagascar*; above 11 inches long.
Bill and area of the eyes black; crown greenish-bay; legs brown; claws black.

Philippen- Green, beneath yellowish; rump blue; tail even.
fis. *Philippine B.*
Inhabits *Philippine Isles*; above 8½ inches long.
Bill and line through the eyes black; legs and claws brown.

Cinereus. Variegated red and yellow, beneath reddish-yellow;
2 longest tail-feathers red. *Cinereous B.*
Inhabits *New Spain*; 9¼ inches long.
Bill green; head, quill and lateral tail-feathers cinereous.

Flavicans. Whitish; head varied with white and tawny; breast reddish; back yellow; rump, wings and tail rufous;
2 middle tail-feathers very long. *Yellow B.*
Inhabits *Africa*? 20 inches long.
Bill short, yellowish-green; tongue long, pointed; eyes yellow; eyelids red; 2 middle tail-feathers 8 inches longer than the rest.

Coromandus.

- Coromandus.** Yellowish; sides of the neck, wings and tail yellow; wing-coverts, back and rump waved-blueish; ocular stripe black. *Coromandel B.*
Inhabits *India* and *Coromandel*.
Bill and *legs* black; *irids* pale rufous; *chin* greenish.
- Brasilienfis.** Varied brown and black; head, chin, lesser wing-coverts and body beneath red; wings and tail blue. *Brasilian B.*
Inhabits *Brazil*; 9 inches long.
Bill, *wings* beneath, *legs* and *claws* yellow.
- Superbus.** Red; front, throat and rump blue; 2 middle tail-feathers longer. *Superb B.*
Size of the last. *Nat. Miscel. pl. 78.*
Bill blackish; *quill-feathers* edged with brown; lower half of the middle tail-feathers dark brown.
- Badius.** Blue-green; head, neck and shoulders chestnut; tail-feathers above blue, beneath grey-brown; 2 middle tail-feathers longer, pointed. *Chestnut B.*
2. Wings and tail chestnut.
Inhabits the isle of *France*, 2) *Senegal*: 11—12 inches long.
Bill black; band beneath the eyes brown; upper wing-coverts green, beneath tawny; *quill-feathers* beneath grey, 4 inner ones totally green; 13 middle ones tipped with black; *tail-feathers* grey at the inner edge; *legs* reddish; *claws* blackish.
- Chryscephalus.** Green-gold, beneath blue-green; head and neck tawny; chin yellow; 2 middle tail-feathers longer. *Yellow-throated B.*
Inhabits *Asia*; 10 inches long.
Front and *eyebrows* blue-green; upper tail-coverts green.
- Angolensis.** Glossy green-gold: band through the eyes cinereous spotted with black: wings and wedged tail beneath cinereous: chin yellow: throat chestnut. *Angola B.*
Inhabits *Angola*; 5½ inches long.
Bill and *claws* black; *legs* cinereous; *body* beneath blueish.
- Erythrocephalus.** Green, beneath yellowish: head and neck red: chin yellow: wings and even tail beneath cinereous. *Red-headed B.*
Inhabits

Inhabits *India*; 6 inches long.

Bill black; *irids* red; band across the *eyes* black; 2 middle tail and quill-feathers edged with cinereous; *legs* cinereous; *claws* blackish.

Nubicus. Blue-green, beneath red; back, wings and forked tail dirty red. *Blue-headed B.*

Inhabits *Nubia*; 10 inches long.

Bill black; greater quill-feathers tipped with blueish-ash, the secondary blackish; *legs* pale ash.

Erythrop-terus. Olive, beneath whitish; chin yellow; wings and tail red, tip with black. *Red-winged B.*

Inhabits *Senegal*; 6 inches long. *Bill* and *legs* black.

Cayanensis Green; wings and tail rufous, the latter tipped with black. *Cayenne B.*

Inhabits *Cayenne*.

Bill black; quill-feathers white at the base, and with the tail-feathers edged with black; *legs* yellowish.

Surinamensis. Variegated; hind-head reddish; scrag greenish-yellow; quill-feathers greenish, varied with black and blue. *Surinam B.*

Inhabits *Surinam*. *Irids* chestnut; *claws* black.

Novæ Seelandiæ. Glossy greenish-black; greater wing-coverts and tuft of curled feathers each side the neck white; tail even, coverts blue. *New Zealand B.*

Inhabits *New Zealand*; 11 inches long; sings well, is held sacred by the inhabitants; flesh good.

Legs and *claws* black; inside the *mouth* and *tongue* yellow, the latter tipped with black and beset with bristles; feathers of the neck lax, long, a little curled, with a longitudinal white streak through the shaft.

Phrygius. Black variegated with yellow. *Embroidered B.*

Inhabits *New Holland*; 7 inches long. *Zool. New Hol. 13. tab. 4.*

Bill dusky; head and neck black; space round the *eyes* yellow; upper wing-coverts yellow, lower black; quill-feathers black edged with yellow; tail wedged, black, edged and tipped with yellow.

Niger.

Niger. Black ; a large tuft of feathers behind the wings and vent yellow ; tail wedged, edged and tip with white.

Yellow-tufted B.

2. Two middle tail-feathers uniform.

3. Flanks rufous ; all the tail-feathers uniform.

Inhabits *Sandwich Islands* ; 14 inches long ; the yellow feathers are used by the natives as ornaments in dress.

Nostrils covered with a membrane ; *tongue* fringed at the tip ; feathers of the *head* and *throat* short ; *tail-feathers* pointed, 2 middle ones 7, the outer 2 inches long.

Caruncu- Brown, belly yellow ; wattles carunculate ; tail wedged.
latus. tip with white. *New Holland B.*

Inhabits *New Holland* ; 14½ inches long.

Bill black ; *nostrils* pervious, half-covered with a membrane ; *crown* blackish ; at the angle of the *mouth* a silvery stripe ; behind the base of the lower *mandible* a long, orange, pendent caruncle ; *body* above brown, the *shafts* of the feathers whitish ; *wings* and wedged *tail* blackish ; 7 outer *quill-feathers* tip with white ; all the *tail feathers* more or less tip with white ; *legs* brownish, the outer toe connected at the base to the middle one.

Corniculatus. Brown, head nakedish ; body beneath and tips of the tail-feathers whitish ; horn on the front obtuse.

Horned B.

Inhabits *New Holland* ; 14 inches long.

Bill a little curved, pale brown ; *nostrils* oval ; *tongue* bristly at the tip ; a short obtuse *horn* at the base of the upper *mandible* ; *head* and upper part of the *neck* with a few bristly feathers ; *body* brown, the feathers edged with olive ; *tail* even, tip with white ; *legs* brown, wrinkled.

Gularis. Black ; forehead and rump blue ; belly spotted with blue ; throat red. *Red-throated B.*

Inhabits *Sierra Leona*. *Nat. Mis. tab. 337.*

Bill and *legs* blackish ; *irids* red ; band across the *eyes* blue ; lower half of some of the *quill-feathers* deep rusty, edges of those near the body slightly marked with blue-green ; 2 middle *tail-feathers* blue-green.

Rufus. Rufous ; quill-feathers brown, the outer edge rufous.

Rufous B.

Inhabits the *Bonary Islands* ; 8½ inches long, tail 3.

Body beneath inclining to yellow ; *toes* separated to the base ; hind *claw* longer. *Melan.*

*Moluccen-
sis.* Grey; orbits naked; cheeks black; tail subequal.

Molucca B.

Inhabits the *Molucca Islands*; 14 inches long, bill 2.

Bill blackish, pervious, half covered with a membrane; tongue as long as the bill, fringed at the tip; some of the feathers of the cheeks tipped with silvery; legs dusky; outer toe connected with the middle one; hind-claw longer.

28. UPUPA. Bill arched, long; slender, convex, a little compressed, somewhat obtuse: nostrils small, at the base of the bill: tongue obtuse, entire, triangular, very short: feet formed for walking.
Hoop or Hoopoe.

Eurus. Variegated with blackish and rufous-white, beneath reddish-white; crest pale orange tipped with black; tail black with a white bar. *Common H.*

Inhabits *Europe, Asia and Africa*; 12 inches long; feeds on insects which it picks out of every kind of ordure; builds in hollow trees, and lays twice or thrice a year 2—7 cinereous eggs; when terrified erects the crest; is solitary, and migrates.

Bill and legs black; irids hazel; back and wings with black and white lines; neck reddish-brown; crest consists of a double row of feathers; tail-feathers 10.

Cape H. Crested; brown, beneath white; wings with a white spot. *Madagascar H.*

Inhabits *Madagascar, Bourbon* and woods round the *Cape of Good Hope*; 16 inches long.

Bill yellowish; tongue filamentous; palate full of tubercles; crest white, pointed, when erected bent forwards; tail-feathers 10, 2 middle ones a little shorter than the rest; legs and claws yellowish; hind-claw large, hooked.

Promerops The 6 middle tail-feathers very long. *Cape H.*

Inhabits the *Cape of Good Hope*; 17 inches long.

Bill, legs and claws black; rump and upper tail-coverts olive, lower yellow; chin white; throat and breast pale orange; belly white; tail-feathers 12.

Male, breast and belly spotted.

Mexicanus Grey mixed with sea-green and purplish, beneath yellow; greater quill-feathers blue; 4 middle tail-feathers very long. *Mexican H.*

Inhabits the higher mountains of *New Spain*; near 19 inches long; feeds on various insects and their larvæ.

Bill blackish, sides yellowish; above the eyes a yellow spot.

Paradisæa. Crested; chestnut; 2 of the tail-feathers very long.

Crested H.

Inhabits *India*: 19 inches long.

Bill, legs and claws lead-colour; head and neck deep black; back, rump, shoulders, wings and tail pale tawny; breast, belly and lower tail-coverts pale ash.

Eufœa. Brown, beneath grey streaked with black and white; head and neck black; 2 middle tail-feathers very long.

Brown H.

Inhabits *New Guinea*; 22 inches long.

Bill, irids and legs black. *Female*, head and neck brown; hind-head, back and wings greenish.

Magna. Black; head, neck and breast glossy green; scapular and lateral tail-feathers falcate; tail very long.

Grand H.

Inhabits *New Guinea*; near 4 feet long.

Bill and legs black; body above violet-black; on the wings blueish; tail-feathers 12, 2 middle ones 21 inches long, the outer 5.

Aurantia. Orange-tawny; head and neck gold; tail even. *Orange H.*

2. Pale yellow; head, neck and wings varied with cinereous and black.

Inhabits *Barbadoes*; 9½ inches long; feeds on worms and seeds.

Bill golden, surrounded at the base with red feathers, 2) black; legs yellow; 2) cinereous; claws black.

Erythro-rynchos. Black-green; belly black; tail wedged; 6 first quill and lateral tail-feathers spotted with white. *Red-billed H.*

Inhabits *Africa* and *Asia*; 15 inches long.

Bill and legs red; feathers of the head and neck silky and somewhat downy.

Indica. Indigo-blue; tail wedged; bill black; legs plumbeous.

Blue H.

Inhabits *India*: size of the last; 12 inches long.

29. CERTHIA.

29. CERTHIA. *Bill* arched, slender, somewhat triangular, pointed: *tongue* various, generally pointed: *feet* formed for walking. *Creeper.*

This is a tribe dispersed through most countries of the globe; they feed chiefly on insects, in search of which they creep up and down trees; breed in hollow trees and lay numerous eggs: *nostrils* small; *tail-feathers* 12; *legs* large, hind-toe stout; *claws* long, hooked; *tongue* mostly sharp, but sometimes flat at the tip, fringed or tubular.

***Familia-** **Grey,** beneath white; quill-feathers brown, 10 of them
vis. with a white spot. *Common Cr.*

Inhabits *Europe, Asia and America*; $5\frac{1}{2}$ inches long.

Head and neck brown with black streaks; *rump* tawny; *wing-coverts* varied brown and black; *quill-feathers* dusky, tip with white, edged and barred with tawny; *breast* and *belly* silvery; *tail* long, tawny, the feathers sloping off to a point. A variety is found differing only in being something larger.

Viridis. Above greenish, beneath varied with pale yellow and green; quill-feathers brown, outer edge green. *Green Cr.*

Inhabits *Carniola*; size of the last.

From the base of the *bill* each side a blue streak; *chin* with a tawny spot; *legs* black.

Pacifica. Black, beneath dusky; shoulders, lower part of the back, rump and vent yellow; lower wing-coverts snowy.

Great hook-billed Cr.

Inhabits *Friendly Islands*; 8 inches long.

Bill very much curved, brown, paler at the base; upper *tail-coverts* and some of the inner *wing-coverts* yellow; *spurious wings* ochre; *legs* blackish.

Obscura. Olive; wings and equal tail edged with green.

Hook-billed green Cr.

Inhabits *Sandwich Islands*; 7 inches long; the feathers are used by the natives to adorn the vestments of their chiefs.

Bill blackish, very much curved, upper mandible longer; *nostrils* covered with a membrane, between these and the eyes a brown streak; *belly* inclining to yellow; *legs* dusky-brown; *knees* white; *hind-toe* very long.

- Coccinea.** Scarlet; wings and tail black. *Hook-billed red Cr.*
 Inhabits *Sandwich Islands*; hardly 6 inches long.
Bill longer than the head, curved like a scymetar, whitish; *legs*
 and long claws blackish; *tail-feathers* short, pointed; edges
 of the *wings* and roots of the *throat-feathers* white.
- Falcata.** Green, beneath and tail violet; wings, belly and vent
 pale brown. *Sickle-billed Cr.*
Length $5\frac{1}{4}$ inches; *bill* dusky, sickle-shaped; *head* with a gloss
 of violet; greater *wing-coverts* and *legs* pale brown; *claws*
 black.
- Soui-man-ga.** Green, beneath yellowish; rump olive; breast brown with
 2 transverse bars, the one blue the other bay; tail
 black. *Violet Cr.*
 Inhabits *Madagascar*; 4 inches long.
Bill, legs and *claws* black; *tongue* bifid at the tip, longer than
 the bill.
Female olive-brown, beneath inclining to yellow.
- Manillensis.** Green varied with blue and violet, beneath olive-grey;
 neck barred with green, blue, violet and yellow;
 wings brown. *Manilla Cr.*
 Inhabits *Manilla*; hardly 4 inches long.
 Between the *shoulders* 2 yellow spots; upper *wing-coverts*
 brown.
- Burbonica.** Greenish-brown, beneath varied with grey; rump yellow;
 wings and tail blackish. *Yellow-rumped Cr.*
 Inhabits *Bourbon Island*; 5 inches long.
Bill and *legs* black; *flanks* rufous.
- Sannio.** Olive; crown inclining to violet; spot on the cheeks
 white; wings and subforked tail brown. *Mocking Cr.*
 Inhabits *New Zealand*; $7\frac{1}{4}$ inches long; sips the moisture
 from the nectary of flowers; voice very imitative.
Bill dusky; *nostrils* large, covered with a membrane; *iris*
 brown; *body* above inclining to green, beneath to yellow
secondary quill and *tail-feathers* edged with olive; *leg*
 dusky; *claws* black, the hind-one longer.
- Nova Hol-landia.** Black, beneath streaked with white; eyebrows and spot
 near the ears white; quill and tail-feathers edged with
 yellow. *New Holland Cr.*
 Inhabits

Inhabits New Holland ; 7 inches long.

Bill dusky, pale at the tip; nostrils covered with a membrane; tail rounded, 2 outer feathers within tip with white; legs pale.

Incana. Brownish; neck and wings paler.
Inhabits New Caledonia; very small.

Hoary Cr.

Aurantia. Green, beneath yellowish; throat orange; wings and tail black.
Inhabits Africa; 4 inches long. Bill black; legs dusky.

Orange-breasted Cr.

Flavipes. Green, beneath blue; wings and tail black.

Blue-throated Cr.

Inhabits Cayenne: 4½ inches long.

Bill and claws black; belly pale blue; sides of the neck mixed with ochre-yellow; legs yellow.

*Ochrochlo-
ra.* Green; cheeks, throat and belly yellow; breast and flanks yellowish-green spotted with blueish.

Yellow-checked Cr.

Inhabits Surinam; half as large as C. familiaris.

*Cardina-
lis.* Black; head, neck, breast and line down the middle of the back red; tail even.

Cardinal Cr.

Inhabits Tanna Island; sucks the nectaries of flowers; size of the common creeper.

Bill black, whitish at the base; tongue extensile, fringed at the tip; a black streak from the bill to the eyes; irids chestnut; legs plumbeous; claws black.

*Caruncul-
lata.* Olive-brown, beneath yellowish-ash; chin orange; at the base of the lower jaw a yellow fleshy wattle.

Wattled Cr.

2. Chin without the yellow spot; wattle less.

Inhabits Tonga taboo island; 7½ inches long.

Bill brown; irids ash; tongue longer than the bill, with 4 bristles at the tip; wattle surrounded with a tuft of yellow feathers; legs and claws blackish.

Fusca. Brown; chin and breast striped with white and brown.

Brown Cr.

Inhabits the islands of the Pacific Ocean; 6 inches long.

Bill with a pale orange spot in the middle; feathers on the sides

9f

of the neck edged with white ; belly paler ; tail even ; legs black ; claws long, hooked, black.

Ignobilis. Above sooty-black, beneath cinereous with whitish elliptic lines. *Ignoble Cr.*

Length 8 inches ; bill yellowish, black on the back ; wings brown with black shafts ; tail and legs black.

Undulata. Above sooty-ash, beneath white transversely waved with black. *Waved Cr.*

Length 7 inches ; bill arched, brown ; legs black.

Mararia. Cinereous ; wings with a tawny spot. *Wall Cr.*

Inhabits southern *Europe* and *Asia* : frequents old walls and arches, from which it picks insects, chiefly spiders ; is solitary and migrates in autumn ; builds frequently in holes of walls ; voice sharp.

Bill subulate, sharp-edged, longer than the head ; neck whitish beneath ; quill-feathers black, 1, 2 on the thin side with 2 white spots ; wings with a rosy spot ; tail-feathers whitish ; claws strong, particularly the hind-one.

Female, chin and throat white.

Rufilla. Brown, beneath white ; eyebrows white ; tail-feathers brown, the outer ones white at the tip.

Brown and white Cr.

Inhabits *India* : $3\frac{1}{2}$ inches long.

From the bill to the eyes a black streak ; quill-feathers edged with brassy.

Capensis. Brown, tail-feathers blackish, the outer ones without fringed with white. *Cape brown Cr.*

Inhabits the *Cape of Good Hope* : 4 inches long.

Bill, tail and legs blackish.

Olivacea. Olive, beneath brown ; orbits whitish. *Olive Cr.*

Inhabits *Madagascar* : 4 inches long.

Bill black ; outer tail-feathers tipped with white, the rest and quill-feathers brown tinged with olive ; legs pale brown.

Carrucaria Olive ; beneath yellowish ; tail even. *Grey Cr.*

2. Greyish, beneath yellow ; chin violet ; 2 outer tail-feathers tipped with yellow.

Inhabits

Inhabits *Philippine Islands*: $4\frac{1}{2}$ inches long.

Bill strong, and with the legs and claws black; tongue with 2 bristles at the tip; stripe from the chin to the breast and upper wing-coverts violet; wings brown; tail black tipped with white.

Cerulea. Blue; band across the eyes, chin, wings and tail black.

Blue Cr.

Inhabits *Cayenne*: 4 inches long; makes its nest of the stalks of dried grass, in the shape of a retort and open beneath, which it suspends from the slender extreme branches of trees. Varies in having the bill and legs sometimes red.

Braziliana. Black; crown green-gold; rump, chin and throat violet; breast purple-tawny.

Black and violet Cr.

Inhabits *Brazil*: $3\frac{1}{2}$ inches long.

Lower part of the back, lesser wing, upper tail-coverts and edge of the tail violet; thighs tawny.

Variegata. Waved with blue, black, yellow and white; beneath saffron; crown red; hind-head blue.

Variegated Cr.

Inhabits *America*: 5 inches long.

Cheeks and space beneath the eyes blue mixed with white.

Cayana. Glossy-green, beneath streaked with white; tail-feathers green, the lateral ones within blackish.

Cayenne Cr.

Inhabits *Cayenne*; above 4 inches long.

Bill black, lower mandible with a line each side; cheeks white; spot near the eyes and chin (of the male) rufous; lower tail-coverts yellowish; quill-feathers blackish, the outer edge green, the inner grey; legs and claws cinereous.

Chalybea. Glossy-green; breast red, with a steel-blue bar on the fore-part.

Collared Cr.

Inhabits the *Cape of Good Hope*: $4\frac{1}{2}$ inches long; feeds on insects and the nectar of flowers; sings charmingly.

Bill, legs and claws black; upper tail-coverts green-gold, lower and belly cinereous; wings grey; tail-feathers blackish tipped with grey, the 10 middle ones brassy-green on the outer edge, cinereous on the inner.

Leucista. Gold-green; fore-head, chin, broad pectoral band and rump violet; wings brown; belly yellow.

Leona Cr.

Inhabits

Inhabits *Sierra Leona* ; $3\frac{1}{4}$ inches long. *Nat. Misf. tab. 369.*
Bill and legs blackish ; pectoral band bounded below by black.

- Afra.* Green ; belly white ; breast red ; rump blue. *African Cr.*
 2. Belly cinereous ; tuft under the wings yellow ; rump violet.
 3. Throat purple-blue.
 4. Green-gold, beneath whitish-brown ; double pectoral band blueish-green and blood-red.

Inhabits the *Cape of Good Hope*, 4) *South America* ; $4\frac{1}{4}$ inches long.

Bill and legs black ; wings and tail blackish, 4) lateral tail feathers with whitish tips.

- Spiza.* Green ; head and wings blackish. *Black-headed Cr.*
 2. Chin white ; crown and wing-coverts blue.
 3. Head and nape black.
 4. Entirely green, beneath paler.

Inhabits *South America* ; $5\frac{1}{4}$ inches long.

Bill whitish ; head and chin silky ; tail deep green.

- Sperata.* Purple, beneath scarlet ; head, chin and rump purple. *Red-breasted Cr.*
 2. Chestnut ; head greenish ; chin violet ; breast red.

Inhabits the *Philippine Isles* ; 4 inches long ; sings well.

Bill black, whitish at the base ; tongue forked, short ; hind-part of the belly yellowish-olive ; lesser wing-coverts violet and green-gold, middle ones brown tipped with tawny, greater and quill-feathers brown edged with rufous ; tail blackish, glossy violet-gold on the outer edge ; legs and claws brown.
Female, above and beneath olive.

- Senegalen-sis.* Black-violet ; crown and chin green-gold ; breast scarlet. *Senegal Cr.*

Inhabits *Senegal* ; 5 inches long.

Bill black ; feathers of the throat and breast black at the base green-gold in the middle, scarlet at the tip ; wings and tail brown ; legs and claws blackish.

- Purpurea.* Entirely purple. *Purple Cr.*
 Inhabits *Virginia* ; $4\frac{1}{4}$ inches long ; sings pleasantly.

- Gutturialis.* Blackish ; throat glossy-green ; breast purple. *Green-faced Cr.*
 Inhabits

Inhabits *Brazil* : above 5 inches long.

Bill and legs black ; front green-gold ; feathers of the breast blackish at the base, violet-green in the middle, red at the tips ; lesser wing-coverts purple.

Cruentata. Blueish-black, beneath white ; crown, neck, back and rump red. *Red-spotted Cr.*

Inhabits *Bengal* ; $3\frac{1}{4}$ inches long. *Bill and legs black.*

Flavocola. Black, beneath pale yellow ; eyebrows whitish ; outer tail-feathers tipped with white. *Black and yellow Cr.*

2. Brown-ash ; vent whitish.

3. Chin pale ; belly brownish ; eyebrows white.

4. Lead-brown, beneath yellow ; eyebrows yellowish-green ; rump greenish ; vent whitish ; bill, legs, wings and tail brown.

Inhabits *West India Islands* : 4—5 inches long ; feeds on insects and the juice of the sugar cane.

Peregrina. Olive, beneath yellow ; wings with a bifid pale band ; tail subforked, 2 outer feathers within tipped with white.

Peregrine Cr.

Bill, wings and tail dusky. Female paler.

Armillata. Green ; wings when folded, above black, beneath yellow ; shoulders, bracelets on the thighs and spots on the rump sapphire. *Braceletted Cr.*

Inhabits *Surinam* ; 5 inches long.

Bill black ; legs yellowish ; body beneath whitish-green ; vent yellowish ; quill-feathers black, the inner edge yellow.

Sanguinea. Blood-red ; wings and tail black ; belly dusky ; vent white. *Crimson Cr.*

Inhabits *Sandwich Islands* ; 5 inches long.

Bill dusky ; secondary quill-feathers edged with bay ; tail-feathers pointed, with white shafts ; legs black.

Virens. Olive ; quill and tail-feathers edged with yellow.

Olive-green Cr.

Inhabits *Sandwich Islands* ; 5 inches long.

Bill and legs dusky.

Rubra. Red ; wings and tail black ; vent white.

Scarlet Cr.

Vol. I. — Q q

Inhabits

Inhabits *South Sea Islands* ; barely 4 inches long.

Bill, legs and claws black ; lower part of the belly white.

Cinnamomea. Cinnamon ; beneath white. *Cinnamon Cr.*
Length 5 inches. Bill and legs blackish.

Verticalis. Olive-green, beneath ashy ; crown green ; wings and tail brown. *Ash-bellied C.*

Inhabits *Africa* ; $5\frac{1}{2}$ inches long. Bill and legs black.

Parietum. Blue ; beneath rufous ; eyebrows and chin white ; under the eyes as far as the nape a black line. *Indigo Cr.*
Inhabits *India* ; size of a nightingale.

Virefcens. Green ; rump blue ; chin red ; wings and tail rufous-gold. *Blue-rumped Cr.*

Inhabits the *Cape of Good Hope* ; size of a canary bird.

Bill and legs black.

Lepida. Glossy-violet, beneath yellow ; front green ; sides of the neck with a longitudinal greenish stripe, and a violet one ; chin brown-red. *Yellow-bellied Cr.*

Inhabits *India*. Bill black ; irids red ; legs brown.

2. Violet-purple, beneath yellow ; cheeks greenish-brown ; chin and throat reddish.

Length 4 inches ; wings brown ; tail black.

Cantillans. Blueish-grey ; spot on the back and body beneath yellow. *Orange-backed Cr.*

Inhabits *China* ; 3 inches long ; sings excellently.

Bill and legs black ; irids red.

Cirrata. Olive ; belly and tail black ; sides of the breast with a yellow tuft. *Tufted Cr.*

Inhabits *Bengal* : 4 inches long.

Bill and legs black ; first quill-feathers brown.

Erythrorhynchus. Olive, beneath white ; wings and tail blackish ; bill red. *Red-billed Cr.*

Inhabits *India* ; 3 inches long.

Bill tipped with black ; legs dusky.

Chrysoptera.

Chrysop-
tra, Varied with blackish and gold; wing-coverts yellow;
wings and tail black. *Yellow-winged Cr.*
Inhabits Bengal. Bill and legs black; tongue long, missile.

Longirof-
tra, Blackish-olive; crown and nape pale green; throat and
breast white; belly yellowish. *Long-billed Cr.*
Inhabits Bengal: 5 inches long. Bill long; tongue missile.

Grisea. Grey-ash, beneath reddish; tail wedged, 2 middle feathers
brown, lateral ones grey, all barred with black at the
tip. *Barred-tailed Cr.*
Inhabits China. Bill and legs yellow.

Melanura. Head and back violet: breast and belly greenish: wings
brown: tail black, a little forked: shanks and toes
black. *Black-tailed Cr.*
Inhabits the Cape of Good Hope: 7 inches long.
Bill and legs black; claws yellow.

Æna. Green-ochre: wings sooty: tail glossy-black: bill and
legs black. *Mus. Carlsf. fasc. iv. t. 78.*

Gularis. Above olive-ash, beneath pale yellow: chin, throat and
upper part of the breast silky-blue. *Mus. Carlsf.*
fasc. iv. t. 79.

Trochilea. Above brown-olive, beneath yellowish dirty-white: tail
black: wings sooty. *Mus. Carlsf. fasc. iv. t. 80.*

Prafinop-
tra, Black: fore-part of the neck purple: wings and tail
yellow leek-green. *Mus. Carlsf. fasc. iv. t. 81.*

Macassa-
riensis, Green-gold, beneath blackish-brown. *Macassar Cr.*
Inhabits Macassar: $4\frac{1}{2}$ inches long.
Bill whitish; legs black.

Indica. Glossy-blue: lower part of the neck whitish. *Indian Cr.*
Inhabits India: $4\frac{1}{2}$ inches long. Bill and legs black.

Amboinen-
sis, Cinereous, beneath green: head and neck yellow: breast
red: wings black. *Amboina Cr.*
Inhabits Amboina: $2\frac{1}{4}$ inches long. Bill yellowish.

Q q 2

Mexicana.

Mexicana. Red : throat green : quill-feathers tipped with blueish.

Red Cr.

2. Pale red : wings and tail deeper ; head black : wing-coverts gold-yellow.

Inhabits *New Spain* : $4\frac{1}{2}$ inches long.

Bill, thighs, legs and claws yellow.

Erythronotos. Scarlet, beneath redish-white : sides of the neck with a black bar : wing-coverts deep green : wings and tail black.

Red-backed Cr.

Inhabits *India* ; 3 inches long.

Bill and legs black ; irids red.

Cinerea. Cinereous : rump and wing-coverts green : wings brown : belly yellowish : vent white : tail black.

Cinereous Cr.

Inhabits the *Cape of Good Hope* : 9 inches long.

Bill and legs black, lower mandible each side with a yellowish streak ; lower part of the back green ; breast and middle of the belly mixed green and yellowish ; tail wedged, 2 middle feathers 3 times as long as the rest.

Tabacina. Two middle tail-feathers very long, body above, head and neck snuff-colour, beneath green : tail-feathers blackish-green.

Snuff-coloured Cr.

Length $8\frac{1}{2}$ inches ; bill a little curved, blackish-brown ; lower wing-coverts yellow ; legs black.

Pulchella. Two middle tail-feathers very long : body glossy-green : breast red.

Beautiful Cr.

Inhabits *Senegal* : $7\frac{1}{4}$ inches long.

Bill, legs and tail-feathers blackish, the latter edged with gold ; belly whitish ; wings and greater coverts brown.

Famosa. Two middle tail-feathers very long : body shining-green : armpits yellow : lores black.

Famous Cr.

Inhabits the *Cape of Good Hope* : 9 inches long.

Bill, legs, claws and tail black ; between the bill and eyes a black line.

Female green-brown, beneath yellowish ; breast green, 2 middle tail-feathers shorter than in the male.

Philippina. Two middle tail-feathers very long : body greenish-grey, beneath yellowish-white.

Philippine Cr.

Inhabits

Inhabits the *Philippine Islands*: $4\frac{1}{4}$ inches long.

Bill, legs and claws black; *tongue* tubular, forked; *quill-feathers* brown, with paler edges; 2 middle *tail-feathers* black, with a gold gloss, the rest blackish tip with white.

Violacea. Two middle tail-feathers very long: body glossy-violet: breast and belly pale yellow.

Violet-headed Cr.

Inhabits the *Cape of Good Hope*: above 6 inches long; makes a loose, silky, artificial nest.

Bill, legs and claws blackish; lower part of the *back*, *rump* and upper *tail-coverts* olive; lower *wing-coverts* grey, greater and *quill-feathers* brown; *tail* wedged, black-brown.

Afatica. Deep blue: wings brown; bill and legs black.

Asiatic Cr.

Inhabits *India*: 4 inches long.

Zeylonica. Cap green: back ferruginous: belly yellow: chin and rump azure.

Ceylones Cr.

2. Green, beneath white: chin, breast, back and wings brown: tail black.

Inhabits *Philippine Islands*: 4, 2) $4\frac{1}{2}$ inches long.

Bill subulate, black, as long as the head; *quill-feathers* brown, the edges of the tip pale; *tail-feathers* equal, blackish, the 2 outer edged with whitish; legs black.

Cyanea. Blue; band across the eyes, shoulders, wings and tail black; legs brown.

Black and blue Cr.

2. Dusky-green; inner sides of the quill-feathers and lower wing-coverts sulphur.

Inhabits *Brazil* and *Cayenne*: $4\frac{1}{4}$ inches long.

Bill, hind-head and claws black; *tongue* as long as the bill, fringed; crown pale green-blue; inner side of the *quill-feathers* and lower *wing-coverts* sulphur.

Lotenia. Blue; pectoral bar gold-red; lores black.

Loten's Cr.

Inhabits *Madagascar* and *Ceylon*: $5\frac{1}{4}$ inches long; builds a cup-shaped nest of the down of herbs; lays 5—6 eggs.

Bill subulate, black, twice as long as the head; *tongue* compressed at the tip; *head*, *neck*, *back*, *rump* and upper *tail-coverts* sometimes blue, sometimes gold-green; *breast*, *belly* and

- and *vent* glossy-black, in the *female* dirty-white spotted with black; *wings* black, *lesser coverts* violet, *middle* green, *greater* black; *tail* even.

Omnicolor. Green mixed with almost every other colour. *Green-gold Cr.*
Inhabits *Ceylon*: near 8 inches long.

Caffra. Brown; breast and belly pale; middle tail-feathers longer.
Cape Cr.

Inhabits the *Cape of Good Hope*; size of a thrush.

Bill black, a little compressed and curved; *chin* pale, with rough black hairs; *rump* yellowish-green; *vent* clear yellow; *tail* black, wedged, as long as the body, the 4 middle feathers thrice as long as the rest, 2 middle ones very long; *wings* black.

30. TROCHILUS. *Bill* subulate, filiform, tubular at the tip, longer than the head; upper mandible sheathing the lower: *tongue* filiform, the 2 threads coalescing, tubular: *feet* formed for walking. *Humming-bird.*

The birds of this genus are the least of the feathered tribe; they feed on the nectar of flowers, particularly those with a long tube; this they extract on the wing like bees, fluttering about the place and making a humming noise; they are gregarious, and build a small, round, elegant nest of moss lined with the down of the great mullein: *legs* and *bill* very weak; *nostrils* minute; *tongue* missile; *tail-feathers* 10; *eggs* 2, white, size of a pea, which the male and female sit on alternately.

A. *Bill* curved.

Paradiseus Red; wings blue; head crested; middle tail-feathers very long. *Paradise H.*

Inhabits *New Spain*: $8\frac{1}{2}$ inches long.

Bill and *legs* black; *wing-coverts* blue.

Galeritus. Green-gold; wings and tail brown; crest purple. *Purple crested H.*

Inhabits *Chili*. *Wings* and *tail* varied with gold.

Exilis.

Exilis. Greenish-brown, with a scarlet gloss; wings, and tail black; crest green at the base, tipped with gold. *Little H.*

Inhabits *Guiana*; $1\frac{1}{2}$ inch long. Bill black.

Pella. Red; middle tail-feathers very long; head brown; chin gold-green; rump green. *Topaz H.*

Inhabits *Surinam*; 6 inches long.

Bill, head and neck black; breast rosy; back and wing-coverts orange-red; quill and middle tail-feathers purple, the rest orange; female almost entirely green-gold.

*Supercili-
osus.* Shining-brown; middle tail-feathers long; belly pale flesh-colour; eyebrows white. *Supercilious H.*

Inhabits *Cayenne*; hardly 6 inches long.

Bill, legs and claws brown; 2 middle tail-feathers twice as long as the rest, from the middle to the tip whitish.

Cyanurus. Green, beneath cinereous; front, throat and 2 middle longer tail-feathers blue. *Blue-tailed H.*

Inhabits *New Spain*; $8\frac{1}{4}$ inches long.

Bill and legs yellowish; tail wedged.

Polytmus. Greenish; lateral tail-feathers very long; cap and tail-feathers brown. *Black-capped H.*

2. Beneath white; tail even, tipped with white.

Inhabits *South America* and *Jamaica*; $9\frac{1}{2}$ inches long.

Bill yellow, tipped with black; irids yellow; wings edged with white; tail forked; legs black.

Forficatus. Green; cap and forked tail blue. *Fork-tailed H.*

Inhabits *Jamaica*; above 7 inches long.

Bill and legs black; body beneath yellow; outer tail-feathers 3 inches longer than the rest.

Picatus. Green-gold; wings and forked tail black; upper part of the back, breast and lesser wing-coverts glossy-violet. *Lesser fork-tailed H.*

2. Throat gold-green; breast violet-blue; tail forked.

Inhabits *Jamaica*, *Brazil* and *Cayenne*; 4 inches long.

Bill and legs blackish; outer tail-feathers $1\frac{1}{2}$ inch long.

Macrou-

Macrourus Green-gold; head and throat violet; belly with a white spot; forked tail steel-blue. *Cayenne fork-tailed H.*
Inhabits Cayenne; 6 inches long. Bill and legs black.

Purpuratus. Green; crown, wings and forked tail purple; collar blue. *Purple-crowned H.*

Auratus. Green-gold; chin, throat and breast red-gold; belly black. *Garnet-throated H.*

2. Cheeks, nape and chin gold-red; head and body dark glossy-green.

Length $4\frac{1}{2}$, 2) 5 inches. Bill and legs black.

Female, chin, throat and breast green-gold.

Leucurus. Green-gold; tail even, white; collar red. *White-tailed H.*
Inhabits Surinam; $4\frac{1}{2}$ inches long.
Bill and legs black; body beneath whitish; wings dusky-purple; 8 outer tail-feathers white, 2 extreme ones blackish at the tip.

Gramineus Glossy-green, beneath white; throat green; breast black; tail purplish. *Black-breasted H.*
Length 6 inches.
Female with 2 white lines on the breast.

Violaceus. Violet; wings and tail gold-green. *Violet H.*
Inhabits Cayenne: $4\frac{1}{2}$ inches long.

Maculatus Green-gold, beneath white; sides of the neck rufous; spot on the neck green, on the breast black, on the tail beneath violet, white and brown. *Green-throated H.*
Inhabits Mexico; $5\frac{1}{2}$ inches long. Bill and legs black.

Punctulatus. Green-gold; throat and wing-coverts spotted with white; wings violet-brown; tail greenish-brown, tip white. *Spotted H.*
Inhabits Mexico: $5\frac{1}{2}$ —6 inches long. Bill and legs black.

Albus. Green-gold; beneath, sides of the neck and tips of the outer tail-feathers white; tail violet. *Violet-tailed H.*
Inhabits Cayenne: 6 inches long.
Wings violet-brown; legs dusky.

Jugular

- Jugularis*. Blueish ; tail even ; neck beneath blood-red. *Red-breasted H.*
 Inhabits Surinam : $4\frac{1}{4}$ inches long.
Bill, crown, hind-head, belly, thighs and tail black, the feathers edged with blue ; temples shining red ; rump blue ; legs blackish.
- Aurantius*. Brown ; head orange ; chin and breast yellow ; wings purple ; tail ferruginous. *Orange-headed H.*
- Flavifrons*. Green ; front yellow ; primary quill-feathers and tail black. *Yellow-fronted H.*
- Thauman-
tius*. Glossy-green ; tail-feathers equal, fringed with white ; the outer ones white on the outside. *Admirable H.*
 Inhabits South America : $2\frac{1}{2}$ inches long.
 Upper mandible and legs black ; lower white ; wings brown ; lower part of the belly with a white spot ; 2 middle tail-feathers entirely green-gold.
- Dominicus*. Glossy-green, beneath subcinereous : tail-feathers ferruginous in the middle, tip with black. *St. Domingo H.*
 Inhabits St. Domingo : about 4 inches long.
Bill and legs brown ; wings brown with a violet tinge.
- Venustiss-
mus*. Red ; back blue ; wings black. *Crimson-headed blue H.*
 Inhabits New Spain.
- Margeri-
taceus*. Green-gold, beneath subcinereous ; tail at the base steel-blue, in the middle purple-brown, tip with a blackish bar. *Grey-necked H.*
 Inhabits St. Domingo : 4 inches long.
- Hirfutus*. Green-gold, beneath rufous-white ; wings violet-brown ; tail blackish tip with white ; legs downy. *Rufous-bellied H.*
 2. Beneath rufous ; tail-feathers dusky, outer ones partly rufous.
 Inhabits Brazil : $3\frac{1}{2}$ —4 inches long.
 Upper mandible black, lower yellow tip with black ; legs yellowish.
- Multicolor*. Brown, beneath carmine ; crown, chin, breast and middle of the back green ; ocular band blue ; tail even. *Harlequin H.*
 Length $4\frac{1}{4}$ inches ; ocular band edged beneath with black.

Cinereus. Glossy-green, beneath cinereous; wings brown; tail rounded, the 2 middle feathers green, 2 next black, the rest partly steel partly white. *Asb-bellied H.*
Length 6 inches. Bill and legs black.

Mango. Glossy-green; tail subequal ferruginous; belly black. *Mango H.*
Inhabits Mexico, Brasil and St. Domingo; 4 inches long.
Bill and legs black; a blue line dividing the colours of the back and belly; vent white; 2 middle tail-feathers black.

2. Lower part of the neck purple, the middle black; belly blackish; vent black at the sides; lateral tail-feathers purple edged with black at the tip.

Inhabits Jamaica; 14 inches long.

3. Brown-green; lower part of the neck green; breast and belly violet; vent white; lateral tail-feathers purple edged with black at the tip.

4. Throat velvet-black; neck-stripes and tail purple.

Inhabits South America. Nat. Mis. fig. 333.

Holosericus. Green; tail even, above black; pectoral band blue; belly black. *Black-bellied H.*

Inhabits New Spain and Guiana; 4½ inches long.

Bill and legs black; belly with a white band or 2 white spots each side.

Gularis. Yellowish; chin and rump blue; belly white; wings and tail black. *Yellow H.*

B. Bill straight.

Capensis. Green; middle tail-feathers long; wing-coverts blue. *Cape H.*

Inhabits the Cape of Good Hope; size of a swallow.

Wings and tail blue, the middle feathers of the latter thrice as long as the rest, edged at the base with silky-green; vent black spotted with azure.

Colubris. Green-gold; tail-feathers black, the 3 lateral ones ferruginous tipped with white; chin flame-colour.

Red-throated H.

Inhabits America as far north as Canada; 3½ inches long.

Bill black; chin scarlet with a beautiful gold gloss.

Female, body above brown, beneath whitish; tail subequal, rusty at the base and tip with white.

Fimbriatus.

Imbricatus. Green-gold, beneath grey; tail steel-blue tipped with grey; feathers of the breast fringed with white.

Spotted-necked H.

2. Beneath white; feathers of the breast edged with grey; tail greenish-black.

Inhabits Cayenne; 4 inches long.

Upper mandible black, lower whitish tipped with black; 2 middle tail-feathers with a coppery gloss; legs and claws black.

Rubineus. Green-gold; chin red-gold; wings and tail rufous.

Ruby-throated H.

Inhabits Brazil and Guiana; 4½ inches long.

Bill and legs black; greater wing-coverts and quill-feathers edged with violet-brown; 2 middle tail-feathers shorter.

Auritus. Green-gold, beneath white; band beneath the eyes black; (male) with 2 violet tufts each side beneath the ears; legs downy.

Violet-eared H.

2. Band beneath the eyes purple; near the ears a black spot, and under this a green-blue one.

Inhabits Cayenne; 4½ inches long.

Bill and legs black; thighs brown; 4 middle tail-feathers black inclining to blue, the rest white; tuft long, soft.

Carifæa. Green-gold; tail subequal, brown-gold; wings black; belly blue.

Green and blue H.

2. Green, beneath blue; chin with an orange spot; wings and tail dusky.

Inhabits Surinam; hardly 4 inches long.

Bill and legs black; breast and upper part of the back and belly blue; lower part of the belly, wings and tail brown.

Melchitus. Green-gold; tail even, ferruginous, the 2 outer feathers tipped with brown; wings black.

Ruby-necked H.

Inhabits Guiana, Brazil and Surinam; above 3 inches long.

Bill and legs blackish; crown, hind-head and neck ruby; body beneath brown.

Female beneath whitish-grey, with a gold spot on the breast and throat.

Mellisugus. Green-gold; tail even, blue; wings blueish-black; shanks feathered.

Honey-sucking H.

Inhabits Cayenne; near 3 inches long.

Bill and legs black; lower tail-coverts and thighs grey-brown; shanks brown.

Pegasus. Tail-feathers greenish at the base ; body greenish-gold, beneath greyish ; shanks feathered. *Grey-bellied H.*
 Inhabits Cayenne : probably a variety of the next.
 Bill and legs black ; tail even, purple, lateral feathers tipped with grey.

Leucogaster. Green-gold, beneath white ; thighs brown ; tail black. *Gold-throated H.*
 Inhabits Cayenne ; $3\frac{1}{4}$ inches long.
 Upper mandible black, lower white tipped with black ; legs black.

Striatus. Brown, beneath white with a longitudinal green-gold streak ; cap brown ; wings black ; tail cinnamon at the base, dusky at the tip. *Brown-crowned H.*
 2. Brown-gold ; cap brown ; a longitudinal brown stripe on the chin ; lateral tail-feathers at the tip edged with white.
 3. Brown-gold ; cap greenish-brown ; eyebrows rufous ; gular stripe dusky ; rump and vent reddish.
 Inhabits Surinam and Tobago ; 3 inches long, 3) 4. Bill and legs black.

Cuttatus. Brown, beneath white ; sides of the neck with dusky spots and a scarlet one each side in the middle. *Patch-necked H.*
 Size of Tr. coluber. Bill and legs black.

Obscurus. Blue ; crown dusky ; chin and throat glossy-green ; rump, wings and tail purple. *Dusky-crowned H.*
 Length $4\frac{1}{2}$ inches ; bill dusky ; wing-coverts purplish-blue ; lower part of the back dusky-purple ; legs black.

Bicolor. Deep green-gold ; head and neck sapphire. *Sapphire and emerald H.*
 Inhabits Gaudeloupe ; middle sized.

Sapphirinus. Green-gold ; throat and breast sapphire ; wings and upper tail-coverts brown ; lower, tail and chin rufous. *Sapphire H.*
 2. Belly white ; tail blue-black.
 Inhabits Guiana.
 Bill white tipped with black ; lower part of the belly white.

Nigra.

- Niger.** Tail subequal : body black, beneath orange : vent white :
shanks feathered. *Black H.*
Inhabits *St. Domingo* : $2\frac{1}{4}$ inches long.
Bill and legs black ; body beneath whitish-grey ; chin with minute brown dots ; tail steel-blue.
- Cyanoccephalus.** Green-gold : head, wings and tail blue : belly red. *Blue-capped H.*
Inhabits *Chili* : size of a walnut.
Bill whitish ; tail 3 times as long as the body.
- Amethystinus.** Green-gold, beneath varied with cinereous and brown :
throat purple : tail forked. *Amethyistine H.*
Inhabits *Cayenne* : size of a *Tr. colubris* ; wings short.
- Viridiflammus.** Green-gold : belly white : tail steel-blue. *All-green H.*
Inhabits *Tobago* : 2 inches long.
- Glaucoptis.** Green-gold : front blue : vent white : wings violet-brown :
legs feathered : tail steel-blue, subforked. *Blue-fronted H.*
Inhabits *Brazil* : $4\frac{1}{2}$ inches long. Bill black ; legs brown.
- Rufus.** Rufous, beneath whitish : crown green-gold : throat and
breast scarlet-gold : wings purplish-brown. *Ruff-necked H.*
Inhabits *Nootka Sound* : $3\frac{1}{4}$ inches long.
Bill and legs black ; lateral feathers of the neck longer, moveable ; wing-coverts dusky-green ; tail-feathers pointed, with a longitudinal black line down the middle and tip with black.
Female, above green-gold ; chin with crimson spots.
- Ornatus.** Green-gold, beneath glossy-brown : rump with a white
band : crest (in the male) and tuft of feathers beneath the ears rufous. *Tufted-necked H.*
Inhabits *Cayenne* : a little less than *Tr. colubris*.
Lower part of the belly white ; throat green-gold ; feathers of the crest long, narrow, with a green spot at the tip.
- Panicus.** Pale brown : crest blue. *Crested-brown H.*
Inhabits *Cayenne* : 3 inches long ; wings and tail dusky.
- Cristatus.*

Cristatus. Green : wings brown : belly brown-ash : crest blueish :
 shanks feathered. *Crested-green H.*
 Inhabits Cayenne : 3 inches long. Bill and tail blackish.

Longicaudus. Green-gold : chin emerald : wings and tail-feathers
 brown, the 2 middle ones very long. *Racket-tailed H.*
 Length $2\frac{1}{2}$ inches, long tail-feathers naked on the projecting
 part, except the tip which is bearded.

Carbunculus. Black : head, neck and breast red : wings brown : tail ru-
 fous-gold. *Carbuncle H.*
 Inhabits Cayenne : 3 inches long.
 Bill feathered to the middle.

Cyanomelas. Varied with white and blue : chin and breast red.
Black and blue H.
 Inhabits Caribbee Islands. Wings and tail black.

Guianensis. Green : crest and breast red : wings and tail variegated
 with green, red and purple. *Guiana H.*
 Inhabits Guiana : 2 inches long. Bill and eyes black.

Tobaci. Shining-green : abdominal band and thighs white : vent
 pale brown : wings and forked tail black-blue. *Tobago H.*
 Inhabits Tobago : 4 inches long.
 Bill dusky, lower mandible yellow ; legs brown.

Elatus. Greenish-gold : tail-feathers equal, ferruginous, tipt with
 black : crested cap red. *Ruby-crested H.*
 Inhabits Cayenne, Guiana and Tobago.
 Bill, legs and head black : body olive, beneath rufous with a
 longitudinal white line ; chin green-gold ; wings purplish ;
 tail rufous terminated by a black band.

Melivorus. Tail-feathers black, the lateral ones white : head blue :
 back green : belly white. *White-bellied H.*
 Inhabits Surinam : above 4 inches long.
 Bill and legs black ; neck blue, with a white collar ; wings
 violet-brown ; tail forked, tipt with black.

Campylo-

Campylopteros. Green-gold, beneath grey : lateral tail-feathers brown tipped with white : quill-feathers 3—4 with curved shafts.

Broad-shafted H.

Inhabits *Cayenne* : $4\frac{1}{2}$ inches long:

Ruber. Lateral tail-feathers violet : body testaceous, obscurely spotted with brown. *Little brown H.*

Inhabits *Surinam* and *Guiana* : above 3 inches long.

Body beneath pale bay ; spots on the *breast* blackish ; temples with a longitudinal brown band ; legs and upper mandible black, lower flesh-coloured tipped with black.

Minimus. Green, beneath whitish : lateral tail-feathers white on the outer edge. *Least H.*

Inhabits *South America* : the least of all known birds ; in length hardly an inch and a quarter, in weight 20—45 grains.

Bill and legs blackish ; wings violet-brown ; tail-feathers blueish-black, the primary totally grey, secondary grey from the middle to the tip.

Female, dirty greenish-brown ; beneath whitish.

ORDER III. ANSERES.

Bill somewhat obtuse, covered with a skin, gibbous at the base; mouth toothed: tongue fleshy: feet palmate, formed for swimming.

31. ANAS. *Bill convex, obtuse, the edges divided into lamellate teeth: tongue fringed, obtuse: 3 fore-toes connected, the hind-one solitary.*

A. *Bill gibbous at the base.*

**Cygnus.* *Bill semicylindric, black: cere yellow: body white.*

Wild Swan.

Inhabits Europe, Asia and America: about 5 feet long; is gregarious, and noisy in its flight; runs swiftly, swims with its neck erect; lays 4 eggs.

Eyelids naked, yellow; legs black; ribs 11.

**Olor.* *Bill semicylindric, black: cere black: body white.*

Tame Swan.

Inhabits Europe and Asia, and is tamed almost every where; swims with its neck curved; is mute, robust, long-lived; feeds on fish and grass; builds in high grass near lakes, and lays every other day; eggs 6—8; carries the young on its back when alarmed; flesh when young was formerly in much esteem,

Bill red at the base; ribs 12.

Nigricollis. *Bill semicylindric, red: head and neck black: body white: legs flesh-colour.*

Black-necked Swan.

Inhabits Falkland Islands: size of A. cygnus.

Atrata. *Black: wings edged with white: bill red.* *Black Swan.*

Inhabits Botany Bay. Nat. Miscel. f. 108.

Upper mandible blackish at the tip, a yellow spot near the tip: legs black, feet paler.

Hybrids.

Hybrida. Bill semicylindric : cere red : tail somewhat pointed.

Hybrid Swan.

Inhabits *Chili* ; size of a goose, but the neck shorter and the legs and wings longer ; flies in pairs ; lays 8 eggs in the sand.

Male white, legs and bill yellow ; *female* black, a few of the feathers edged with white ; bill and legs red.

Cygnoides. Bill semicylindric ; cere gibbous ; eyelids tumid.

Chinese Goose.

Inhabits *Europe, Asia* and *Africa* ; above 3 feet long.

Bill black, wrinkled near the front, gibbous, ascending, surrounded at the base with a rusty-white line ; *crown* and longitudinal band down the neck and white *nape* testaceous ; *back* and *flanks* grey-brown, the plumage edged with whitish-grey ; *body* beneath white ; *legs* tawny ; *claws* black ; *wart* on the chin blackish.

2. Bill not gibbous ; legs scarlet ; wart on the chin o.

3. Bill pale yellow ; cere large, black ; hind-head black ; chin with a pouch ; body dirty-grey mixed with whitish.

Gambensis. Bill semicylindric ; cere gibbous ; shoulders spinous.

Spar-winged Goose.

Inhabits *Africa* ; size of a goose.

Bill red ; *cheeks, chin, outer wing-coverts* and *body* beneath white, above black ; *legs* chestnut ; *spines* on the wings horny.

Indica. Grey, beneath pale ash ; head and neck white ; lunule on the hind-head and spot beneath black ; rump and vent white.

Barred-headed Goose.

Inhabits *India* ; flesh good.

Bill tawny-yellow, with a black nail at the tip ; hind-part of the *belly* brown edged with white ; *tail* grey, tip with white ; *legs* tawny.

Castoroba. Bill dilated and rounded at the point ; body white.

Chili Goose.

Inhabits *Chili* : large. *Bill* and *legs* red ; *eyes* black.

Melanotos. White ; bill and caruncle at the base black ; head and neck spotted with black ; back, wedged tail and wings black.

Black-backed Goose.

Inhabits

Inhabits Coromandel; 2 feet 9 inches long.

Bill pale, carinate on the back; *wings* with a strong, sharp spur at the flexure; *legs* blackish.

Grandid. Body blackish, beneath white; bill black; legs scarlet.
Great Goose.

Inhabits Siberia; size of *A. cygnus*.

Hyperborea Body snowy; front yellowish; 10 first quill-feathers black; bill and legs red. *Snow Goose.*

Inhabits Europe and North America; 32 inches long; flies in vast flocks; a very stupid bird.

Picta. Blackish-ash with transverse black lines; head, neck, middle of the belly, bar on the wings and coverts white. *Painted Goose.*

Inhabits Statenland; 28 inches long.

Bill, legs, primary quill and tail-feathers black; *wings* with an obtuse spur at the flexure.

Magallanica. Rusty-brown; body on the fore-part and beneath transversely varied; bar across the wings and coverts white. *Magellanic Goose.*

Inhabits Magellan's Straits; 24 inches long.

Bill, wings and tail black; *vent* grey; *legs* yellow.

Antarctica Snowy, bill black; legs yellow.

Antarctic Goose.

2. Variegated; belly, vent, rump and thighs white; wings with a green spot.

Inhabits Falkland Islands; 24—26 inches long.

Female, bill flesh-colour; *body* brown with transverse white lines; middle of the *back* and greater *quill-feathers* black; *vent* greenish-white.

Variegata. Above brown spotted with white; beneath chestnut spotted with white and black; bill, tail and primary quill-feathers black, secondary green; wing-coverts white; rump and vent ferruginous. *Variegated Goose.*

Inhabits New Zealand; size of *A. major*. *Legs* black.

Leucop.

Leucopiera White; bill, 2 middle tail-feathers, primary quill-feathers and greater wing-coverts black; nape and upper part of the back with numerous black lines.

Bustard Goose.

Inhabits *Falkland Islands*: 32—40 inches long; flesh good.

Wings with a blunt spine at the flexure and a dusky-green spot; greater wing-coverts tipped with white; secondary quill-feathers half black half white; legs black.

Cinerea. Cinereous, beneath dusky; vent white; wings and pointed tail short, black; bill, irids, tubercle on the wings and legs yellow.

Loggerhead Goose.

Inhabits *Falkland Islands*: 32 inches long; flesh rancid.

Bill tipped with black; secondary quill-feathers white on the outer edge; hind-part of the belly blueish-ash; claws black.

**Tadorna.* Bill knobbed at the base, front compressed; head greenish-black; body variegated with white.

Sheldrake. Burrough Duck.

Inhabits *Europe* and *Asia*; 2 feet long; feeds on fish, insects and herbs; lays 15—16 roundish, white eggs in rabbits' holes; flesh rancid.

Bill and legs red; head and neck violet; collar white; back white; breast brown; belly white with a black line; first quill-feathers black, the next violet, inner ones ferruginous, the last white; tail white tipped with black.

Female with less vivid colours.

Spectabilis. Bill compressed at the base with a black feathery keel; head hoary.

Grey-headed Duck.

Inhabits *North America, Europe* and *Asia*; near 2 feet long, builds in dry places; eggs 4—6, white; flesh very good.

Bill and legs red; head and crown pale grey, surrounded with a row of black spots; cheeks and nape green, chin, throat and breast white; back, belly and tail blackish.

Female mostly black and brown; belly dusky.

**Fusca.* Blackish; lower eyelid and spot on the wings white.

Velvet Duck.

Inhabits *Europe* and *South America*: 20—22 inches long.

Bill yellow, black in the middle, gibbous at the base; legs red.

Female without the gibbosity on the bill; body brown; eggs white.

- *Nigra*. Body totally black; bill gibbous at the base.
Black Diver.
 Inhabits *Europe* and *North America*; 22 inches long; feeds on
 grass and shell-fish; flesh rancid.
Bill yellow in the middle; *head* and *neck* sprinkled with purple;
tail somewhat wedged.
Female, without the gibbosity at the base of the bill, and
 browner.
- *Regia*. Caruncle compressed; body blue, beneath brown; collar
 white.
Royal Duck.
 Inhabits *Chili*; much larger than *A. boschas*.
- *Nilotica*. Whitish with hoary spots; sides of the breast and belly
 with hoary lines; marginal callus on the bill and
 caruncle purple-red.
Nilotic Goose.
 Inhabits near the *Nile*. *Iris* yellow; *legs* red.
- *Beringii*. White; wings black; neck blueish; caruncle at the base
 of the bill yellow, radiate in the middle with blueish
 feathers.
Bering Duck.
 Inhabits *Bering's Island*; size of a goose.
 Round the ears a greenish-black blotch; eyes black; orbits
 yellow.
- *Albifrons*. Brown, beneath white spotted with black; front and rump
 white; bill and legs flame-colour.
White-fronted Goose.
 Inhabits *Europe*, *Asia* and *America*; migrates southerly in
 winter; 2 feet 4 inches long.
Breast cinereous; *tail* dusky, edged with white.

B. Bill equal at the base.

- *Marila*. Black; shoulders waved-cinereous; belly and spot on the
 wings white.
Scaup Duck.
 Inhabits *Europe*, *Northern Asia* and *America*; in winter mi-
 grates into warmer countries; feeds on shell-fish; 18—20
 inches long.
Bill broad, blueish-ash; *iris* yellow; *head* and *neck* greenish-
 black; *back* and *wing-coverts* waved with black and cine-
 reous; *legs* and *primary quill-feathers* dusky, *secondary* white
 tip with black; *tail*, *coverts* and *vent* black.
Female brown, bill black surrounded with a circle of white
 feathers; *neck* rusty; *belly* and bar on the wings white; *legs*
 black.

2. Head and neck purple-green; back and shoulders waved with cinereous; belly and wing-spot white.

Length 21 inches. Wings, rump and tail black.

Lobata. Blackish with transverse greyish lines, beneath paler; under mandible lobate beneath. *Lobated Duck.*

Inhabits *New Holland*; size of the common duck. *Nat.*

Mis. f. 255.

Bill broad at the base, black, under mandible with a large, black, flat, round flap or wattle, seated longitudinally; *body* dark cinereous, paler beneath and on the neck, waved with numerous transverse whitish lines; *legs* black.

**Anser.* *Bill* semicylindric; *body* above cinereous, beneath paler; neck striate. *Grey-lag Goose.*

2. Varies much in colours by domestication. *Tame Goose.*

Inhabits in flocks the northern parts of *Europe, Asia* and *America*; resides in the fens of *England* the whole year, and lays numerous eggs; is excellent food and very long lived; 33 inches long.

Bill flesh-colour tipped with white; *rump* and *vent* white; *legs* flesh-colour; *claws* black; *wing-spot* 0.

Montana. Head, neck and quill-feathers red-green.

Mountain Goose.

Inhabits mountainous parts of the *Cape of Good Hope.*

Cana. Reddish-ferruginous; head and neck grey; wing-spot green; shoulders white. *Hoary-headed Goose.*

Inhabits the *Cape of Good Hope*; less than *A. bernicla*.

Bill dusky; *checks* and *wing-coverts* white; *back, breast* and *belly* ferruginous with deeper transverse lines; *primary quill-feathers* black, *secondary* green; at the flexure of the wings a bluntish spur; *vent* tawny with a black band; *legs* and *tail* black.

**Ruficollis.* Black, beneath white; bill small, conic; neck rufous; spot between the bill and eyes white.

Red-breasted Goose.

Inhabits *Russia* and *Northern Siberia*, rarely *England*; migrates in winter towards *Persia*; size of *A. canadensis*; flesh excellent.

Bill

Bill brown with a black claw; *irids* yellowish-brown; *pectoral band* white, beneath black; *chin* black with an interrupted white line; *tail* rounded, short, the feathers brown, coverts white; *down* long, soft, cinereous; *legs* black.

Casaca. Rufous; wings and tail black; wing-spot white.

Ruddy Duck.

Inhabits *Russia* and *Siberia*; 22 inches long; lays its eggs in the fissures of rocks or holes of trees; flesh very good.

Bill and *legs* black; *head* and beginning of the *neck* white; *collar* (of the male) black; *rump* deep black.

Egyptia- *ca.* *Bill* subcylindric; body undulate; crown white; wing-spot clear white with a black bar. *Egyptian Goose.*

2. *Bill* grey; spot on the breast black; back, wings and rump chestnut.

Inhabits *Africa*, 2) *Cape of Good Hope*; 27 inches long.

Bill reddish tip with black; body waved with brown and ferruginous; temples, orbits and spot on the breast chestnut; back, rump, wings and tail black; belly white; legs red; claws black.

**Segetum.* Cinereous, beneath dirty-white; bill compressed at the base; tail-coverts white; legs saffron. *Bean Goose.*

Inhabits *Hudson's Bay* and the *Hebrides*; in autumn comes into *England* in flocks, and is destructive to corn; $2\frac{1}{2}$ —3 feet long.

Bill reddish in the middle, black at the base and tip; head and neck inclining to ferruginous; quill-feathers edged with black, tail with white; claws white.

Bercalis. Bill narrow; head green; breast and belly white.

Guland Duck.

Inhabits the fens of *Iceland*; very rare.

**Erythrop-* *cerus.* Cinereous; front white.

Bernacle.

Inhabits *Europe*, rarely *America*; is plentiful on the sea coasts of *England* in the winter; 25 inches long.

Body above waved black and white; neck black; belly white; bill short, black, with a flesh-colour spot each side; between the bill and eye a black spot; tail beneath white; legs blackish.

Carulef.

Cerulea. Brown, beneath white; wing-coverts and hind-part of the back blueish. *Blue-winged Goose.*

2. White; hind-part of the neck and scapular region lead-colour; wing and tail-coverts blueish.

3. Grey, varied with brown; head and upper part of the neck white, hind-part black; wing and tail-coverts blueish.

Inhabits *North America*; less than *A. anser*.

Bill and legs red; crown yellowish; rest of the head and neck white; shoulders and tail waved with white and grey.

**Bernicla*. Brown; head, neck and breast black; collar white.

Brent Goose.

Inhabits *North America, Asia and Europe*; size of the heron; migrates southerly in autumn, and flies in wedge-shaped flocks with perpetual cackling; feeds on sea-plants, berries and marine insects; flesh when tamed good.

Bill, wings, tail and legs black; broad spot each side the neck, tail-coverts and vent white; belly and shoulders cinereous; flanks streaked with white.

Canadensis. Cinereous; head and neck black; cheeks and chin white.

Canada Goose.

Inhabits in vast flocks *North America*; 3 feet 6 inches long; flesh good.

Bill, tail, rump and primary quill-feathers black; a triangular spot reaching from the hind-head to the chin; nape, tail-coverts, vent and lower part of the belly white; legs plumbeous.

**Mellissi-* Bill cylindric; cere on the hind-part bifid, wrinkled.

ma.

Eider Duck.

Inhabits northern parts of *Europe, Asia and America*; 22 inches long; feeds on testaceous animals; lays 5 greenish eggs in a nest strewed with its soft down; flesh and eggs good; the plumage constitutes the much valued luxury, Eider down.

Bill, legs, front, ocular band, breast, lower part of the back and belly black; middle of the head, upper part of the back, shoulders and wing-coverts white; beneath the hind-head a green blotch.

Female almost wholly obscurely ferruginous, with black lines; tail and primary quill-feathers dusky.

Moschata. Face naked, papillous.

Muscovy Duck.

Inhabits *Brazil* and is domesticated in *Europe*; 2 feet long; builds in trees; is easily tamed. Female less.

Legs

Legs and orbits naked and with the bill red, tip of the bill and space round the nostrils black; crown black; temples, chin and throat white varied with black; breast and lower part of the belly brown mixed with white; back and rump brown with a green-gold gloss; upper part of the belly white; 3 first quill-feathers white, the rest brown; tail-feathers 20, the outer white, the rest green-gold.

Rufa. Cinereous: head and neck rufous: breast black: back with brown lines: wings ashy-brown.
Red-necked Duck.

Leucocephala. Bill broad: tail-feathers rigid, pointed, channelled, the middle ones longer. *White-headed Duck.*
Head white; crown black; bill blueish; collar black; breast chestnut with transverse black streaks; belly grey with small black spots; back rufous; wings reddish with brown dots and lines.

Monacha. White varied with black: bill yellowish tip with black: wing-spot violet-green.
Larger than A. boschas; lores grey; head, bill and upper part of the breast spotted with black; first quill and tail-feathers white tip with brown.

Melanura. Cinereous: bill and legs testaceous: wings and tail black. *Black-tailed Duck.*
Crown and back rufous; rump black with white spots.

Torrída. Head white: neck above black, beneath chestnut. *Torrid Duck*

Albicans. Front and body beneath whitish, above brown: head and neck brown-rufous. *White-fronted Duck*
Feathers of the breast cinereous edged with pale rusty and with a rufous bar near the tip; quill-feathers within and at the tip white.

Georgica. Cinereous-waved: wing-spot greenish edged with white wings and tail dusky. *Georgia Duck*
Inhabits Georgia; 20 inches long; flesh good. Bill yellow, a little bent back at the tip; irids chestnut; wing coverts pale ash; legs greenish-ash.

Bahama

*Bahamen-
fis.* Grey: bill lead-colour with a lateral tawny spot: wing-
spot green and pale yellow. *Plathera Duck.*

Inhabits *Brasil* and *Bahama Islands*: 17 inches long.

Crown reddish-ash; neck, back, shoulders and rump reddish-
brown; cheeks and throat white; breast and belly rufous-
grey spotted with black; primary quill-feathers and lesser
wing-coverts dusky, greater green tipped with black; second-
ary quill-feathers yellow; legs lead-colour.

*Brasilien-
fis.* Brown, beneath cinereous: between the bill and eyes a
yellow spot; chin white; tail wedged, black.

Mareca Duck.

Inhabits *Brasil*; size of the last.

Bill black; upper wing-coverts brown with a green-gloss, the
greater edged with blue-green and tipped with black; quill-fea-
thers tipped with white; legs red.

*Erythra-
rhynca.* Brown, beneath white; temples and transverse bar on the
wings white and one yellowish; tail black.

Crimson-billed Duck.

Inhabits the *Cape of Good Hope*; 15 inches long.

Iris and bill red, the latter a little bent back at the tip; legs
black.

Albeola. White; back and wings black; head blueish; hind-head
white *Buffel-headed Duck.*

Inhabits *America*, from *Carolina* to *Hudson's Bay*; builds in
trees; 16 inches long: migrates in autumn.

Bill black; crown and front shining black varied with green
and purple; cheeks white; base of the secondary quill fea-
thers with the incumbent coverts white; legs orange.

Female, head and body above brown, beneath white; behind
the eyes each side an oval white spot; chin white; wings
brown with a white spot in the middle.

Stelleri. White; hind-head subcrested; transverse spot on the nape
and each side the bill green; tail brown; 10 first quill-
feathers blackish-brown, the rest black-blue.

Western Duck.

Inhabits *Kamtschatka* and *America*: flies in flocks, and builds
in inaccessible rocks; size of *A. fuligula*.

Bill and legs black; orbits, lunule at the base of the neck, and
band from the wings to the back black.

Female ferruginous.

**Clypeata*. Extremity of the bill dilated, rounded, with an incurved nail. *Shoveler*.

2. Wing-spot purple, each side black and white; breast reddish.

3. Above greenish-black, beneath tawny; breast white; legs red.

Inhabits *Europe, Asia and North America*, 2) *Mexico*; 21 inches long.

Bill black; irids yellow; head and neck violet-green; breast white, lunulate; back, wings and wedged tail brown; belly chestnut; vent white; first and second wing-coverts pale blue, greater brown tipped with white, the rest edged with white; legs tawny.

Mexicanus Tawny; above lined black and white; wings brown, lesser coverts white, the greater next the body green-gold. *Mexican Shoveler*.

Inhabits *New Spain*; less than the common duck.

Bill brownish-red; greater wing-coverts brown; legs reddish.

**Rubens*. Brown; chin and breast chestnut; wings tipped with grey; wing-spot purple edged with white; tail short, white.

Red-breasted Shoveler.

Inhabits the fens of *Lincolnshire*; size of a tame duck.

Bill broad, brownish-yellow; head large; eyes small; irids yellow; legs small, slender, bay.

Jamaicensis. Varied with brown, saffron and rusty; back wings and tail brown; upper part of the head black; beneath and chin white with black spots. *Jamaica Shoveler*.

Inhabits *Jamaica*; 16 inches long.

Bill broad, blueish, orange at the sides; irids brown; legs orange; back with a few arrowed yellowish dots; tail wedged.

Marfa. Waved with cinereous and yellowish and speckled with brown; beneath brown sprinkled with grey; throat brown-yellow waved with black; tail long, black, wedged. *Ural Duck*.

Inhabits the lakes between the *Ural* and *Irtish*; larger than *A. querquedula*; swims swiftly with the tail dipped as far as the rump in the water, but cannot walk; makes a floating nest.

Bill large, broad, azure, tumid at the base; head white; crown and

and eyelids black; wings small, brown, without the spot; neck velvet-black; tail-feathers 18, very narrow; legs brown.

Female, bill and head brown; chin white.

Scandiacq. Chesnut; back, wings and tail black; belly white.

Lapmark Duck.

Inhabits Norway: size of *A. boschas*.

Bill broad and with the legs black; secondary quill-feathers white tipped with black; flanks ferruginous.

**Strepera.* Wing-spot rufous, black and white. *Gadwall.* Grey.

Inhabits Europe and Northern Asia: 19 inches long.

Bill flat, black; legs tawny; rump black; back brown waved with paler; breast and belly grey varied with white.

Falcaria. Crested; variegated with hoary and brown; breast scale-waved; front, chin, collar and bar on the wings white. *Falcated Duck.*

2. Quill-feathers not falcate; vent brown; thighs white.

Inhabits Eastern Siberia, 2). Java: 18 inches long.

Bill black; crown testaceous, rest of the head silky-green with a small white spot on the front; wing-spot steel-black edged with white; 5 inner quill-feathers long, falcate, varied with violet and white; legs lead-colour.

Dominica. Rufous; fore-part of the head sooty; wing-spot white; shafts of the tail-feathers deep black.

St. Domingo Teal.

Inhabits St. Domingo: 12 inches long.

Bill black; breast and belly grey-brown mixed with white; some of the greater wing-coverts white; wings brown; tail wedged, the feathers pointed; legs brown.

Spinosa. Brown; crown black; tail-feathers daggered.

Spinous-tailed Teal.

Inhabits Cayenne and Guiana: 11—12 inches long.

Bill blueish; ocular band white in the middle, black each side; tail short; legs flesh-colour.

Africana. Reddish-brown; back, wings and tail black; spot on the breast and transverse bar on the wings white.

African Teal.

Inhabits

T t a

Inhabits *Egypt*; 16 inches long.

Female less vivid; spot on the breast waved with brown.

**Madigaf-
carensis.** Dusky-green, beneath white; cap, front and chin white;
hind-head and neck greenish-black; throat and breast
ferruginous, waved with brown. *Madagascar Teal.*

Inhabits *Madagascar*; 12 inches long.

Bill yellow tipped with black; irids yellow; between the ears a
pale green oval patch; legs and wings dusky, the latter with
a white streak.

**Coroman-
delina.** Above glossy-brown, beneath white; crown black; the
rest of the head and neck white spotted with black.

Coremandel Teal.

Inhabits *Coromandel*; small.

Bill dusky; lower part of the neck with black streaks crossing
each other; vent ferruginous at the sides; legs black.

Female beneath varied with white and grey.

**Manillen-
se.** Head and chin white; neck, breast and wing-coverts bay;
wings and tail pale greenish. *Manilla Teal.*

Bill black; feathers of the back yellow edged with black, of
the belly white edged with black; legs blackish.

Fermosa. Brown; crown black edged with white; chin reddish spot-
ted with black; wing-spot black edged with testa-
ceous, and marked on the fore-part with an oblique
green spot. *Baikal Teal.*

2. Brown; crown black; head yellowish-brown at the sides;
behind the eyes green with a curved black spot.

Inhabits the lake *Baikal*, 2) *China*; 15 inches long.

Bill black; legs dusky-red; from the eye to the chin a curved
black spot, paler on the hind-part and edged with green;
nape and sides of the neck waved; vent black with a white
band and tawny at the sides; middle tail-feathers whitish.

Hina. Region of the eyes green.

Hina Teal.

Inhabits *China*.

Bill soft, blackish-grey; head and neck brown; under the eyes
a white line; neck and upper part of the back spotted with
black; rump cinereous; breast white, spotted.

Sparman-

Sparman- Beneath dirty-white, above black varied with ferruginous
nia. and white; scapulars white, edged and lined on the disk with rusty-white.

Inhabits near *Aboam*; 23 inches long.

Bill and legs black; tail ferruginous.

**Cinacula.* Varied with black and white; head, tumid, violet; at each corner of the mouth a large white spot.

Golden Eye.

Inhabits *Europe, Asia and North America*; 19 inches long; builds in the hollows of trees and preys on shell-fish, mice, fish and frogs.

Bill black; irids golden, lower part of the neck, breast and belly white; back and rump black; legs red.

Female; head red-brown; neck grey; breast and belly white; wing-coverts varied with dusky and cinereous; middle quill-feathers white, the rest and tail black; legs dusky.

Perispicil- Black; crown and nape white; bill with a black spot be-
lata. hind the nostrils. *Black Duck.*

Inhabits *North America*: 21 inches long.

Bill and legs red; crown and nape with a white triangular spot.

Female less, sooty, without the spot on the nape; cheeks with 2 whitish spots.

**Glaucion.* Body blackish; breast waved; wing-spot white, linear.

Morillon.

Inhabits *Europe, Asia and America*; less than *A. clangula*.

Bill yellowish-brown; irids golden; head ferruginous; collar white with a border of grey beneath; back and wing-coverts dusky with a few white lines, the greater with large white spots; tail and primary quill-feathers black, secondary, breast and belly white; legs yellow.

Nova His- White spotted with black; head tawny, varied with
pania. blackish and green-blue; wing-coverts and vent blue; spot between the bill and eye, and bar on the wings white. *Mexican Duck.*

Inhabits *Mexico and Surinam*; size of *A. querquedula*.

Bill blue, beneath black; legs pale red; middle quill-feathers green without, tip with tawny.

Female, head and body above black, beneath varied black and white; legs cinereous.

Malacorhyn-

Malaco-rhynchos. Blueish-lead; bill membranaceous at the tip; crown greenish-ash; wings with a transverse white spot.

Soft-billed Duck.

Inhabits *New Zealand*; 18 inches long.

Bill pale ash tip with black; legs dusky-plumbeous.

**Glocitans* Subcrested, brown waved with black: head green: before and behind the eyes a ferruginous spot: breast with black spots; wing-spot green edged with white.

Bimaculated Duck.

Inhabits *Siberia* and *England*: 20 inches long.

Bill plumbeous, with a black nail; irids and crown brown; chin purple; breast ferruginous spotted with black; crown and back brown waved with black; shoulders, wing-coverts and primary quill-feathers cinereous, secondary green edged with white; belly dusky, speckled; tail-coverts green; tail-feathers 12, brown, edged with white, 2 middle ones black; legs tawny.

Americana Pale rusty waved with black: crown and front ochre: wing-spot large, white: wings and tail brown.

American Wigeon.

Inhabits *America*: size of *A. penelope*; flesh good.

Bill lead-colour tip with black; hind-head and neck varied with white and black; behind the eyes a black spot; vent black; legs dusky.

Capensis. Dirty-white: back bay: wing-spot blueish-green edged with white.

Cape Wigeon.

Inhabits the *Cape of Good Hope*; 15 inches long.

Bill red, black at the base; head speckled with dusky; legs red.

**Penelope.* Tail a little pointed: vent black: head brown: front white: back cinereous waved.

Wigeon.

2. Throat cinereous waved: wing-spot silvery.

Inhabits *Europe*, *Asia* and *Africa*: 20 inches long; flesh good.

Bill lead-colour with a black nail; head and upper part of the neck red with blackish spots; breast claret; body above waved with cinereous and blackish; wing-spot blue-green, black before and behind; wing-coverts varied brown and white; belly white; legs lead-colour.

Female waved brown, breast paler; eggs pale brown, a little waved.

**Acuta.*

- **Acuta*. Tail pointed, long, beneath black; hind-head each side with a white line; back cinereous waved. *Pin-tail*.
Inhabits *America, Europe and Asia*; 28 inches long; flesh good.
Bill black, blueish at the sides; head ferruginous; throat white, a little spotted; body beneath white; wings brown, the spot violet, on the fore-part ferruginous, hind-part black and white; tail brown, edged with white, 2 middle feathers longer.
Female less; wing-spot straw-colour edged with white.
- **Ferruginea*. Reddish-brown; bill dilated and rounded at the tip; legs blueish. *Ferruginous Duck*.
Inhabits *Sweden, Denmark, rarely England*; weight 20 ounces.
Bill long, the mandibles ferrate at the edges; body beneath pale.
- **Glacialis*. Tail pointed, long; body black, beneath white. *Long-tailed Duck*.
Inhabits *Europe, Asia and America*: less than *A. acuta*.
Bill black, orange in the middle; head on the fore-part and sides reddish-grey, hind-part, breast and belly white; scapulars long, white; sides of the neck with a black spot; lower part of the breast, back, wings and tail chocolate; 4 middle tail-feathers black, 2 middle ones longer, the rest white; legs dusky-red or blackish.
Female, tail shorter, wedged; body varied with blackish, rufous and grey; back black; collar and lower part of the belly white.
2. Blackish-brown, beneath white; head pale grey at the sides; orbits white; hind-head, chin and neck spotted with brown; wings with a reddish-brown spot.
Inhabits the island *Oedel*.
- Fulva*. Tawny; back, shoulders, wings and rump transversely streaked with tawny and brown; tail varied with white and black. *Mexican Pochard*.
Inhabits *Mexico*. Bill and legs dusky; eyes black.
- **Ferina*. Cinereous waved; head brown; pectoral band, vent and rump black. *Pochard. Red-headed Wigeon*.
2. Blackish; head and neck chesnut; breast and belly varied with brown and cinereous; wings varied white and grey.
Inhabits

Inhabits *Europe, Asia and America*: 19 inches long; flesh good. Bill broad, blue, tip with black; irids tawny; head and neck bay; breast and upper part of the back black; scapulars and inner wing-coverts undulate with black and white; belly whitish with dusky lines at the sides; legs lead-colour. Female darker; head pale reddish-brown; wing-coverts and belly cinereous.

Lurida. Black; head chestnut; breast with transverse red lines.

Lurid Duck.

Inhabits southern *Russia*: larger than *A. crecca*.

Near the mouth a white spot; belly whitish spotted with blackish, on the sides and vent snowy; quill-feathers varied with cinereous and black; tail-feathers 12, black.

Kekushka. Ochre-yellow, beneath snowy; back cinereous: rump and tail deep black; quill-feathers 15—19 tip with white.

Caspian Duck.

Inhabits the *Caspian Sea*; near 20 inches long; flesh rancid.

• *Querquedula.* Spot on the wings green; above the eyes a white line.

Garganey.

Inhabits *Asia and Europe*: 17 inches long.

Bill lead-colour; crown dusky with oblong streaks; cheeks and neck purple with white streaks; breast light-brown with semicircular black bars; belly white, lower part and vent speckled; first quill-feathers cinereous, outer webs of the middle ones green; scapulars long, narrow, striped with white, ash-colour and black; tail dusky; legs lead-colour.

Female with an obscure white mark over the eye; plumage brownish-ash; wings without the green spot.

• *Crecca.* Wing-spot green; a white line above and beneath the eyes.

Common Teal.

2. Wing-spot varying in colour; body above brown-ash, beneath rufous-white, with black spots on the belly.

3. Cheek, chin and body beneath white-rufous; wing-spot without black.

Inhabits *Europe and Asia*: 14 inches long.

Bill black; irids hazel; head and neck bright bay; behind the eyes to the nape a broad green band, terminating beneath in a white line; body whitish with transverse blackish lines above;

above; fore-part of the neck and breast with round black spots; wing-spot green, edged beneath with white, above obliquely black; vent black in the middle.

Female, head and neck varied with whitish and brown; vent totally white.

Carolinensis. Varied with black and white; head and upper part of the neck chestnut; throat and breast spotted with black; wing-spot green; line beneath the eyes and humeral arch white. *American Teal*.

Inhabits America, from Carolina to Hudson's Bay.

From the eyes to the hind-head each side a green stripe; wing-coverts brown; legs dusky.

Female reddish-brown-ash spotted with black.

Histrionica. Variegated with brown, white and blue; ears, double line on the temples, collar and pectoral bar white.

Harlequin Duck.

Inhabits America and Europe: 17 inches long.

Bill and legs black; wing-spot blue with a white transverse line.

Female grey; first quill-feathers blackish; upper mandible white at the base; ears white.

Fuscescens. Brownish; head and neck paler; wings cinereous, spot blue tipped with white; tail dusky. *Brown Duck*.

Inhabits America: 16 inches long.

Bill thick at the base, blueish tipped with black; breast rusty-waved.

Poecilothyncha. Black; cheeks and part of the throat cinereous; wing-spot green, above white, beneath bounded with white and black; secondary quill-feathers white.

Spotted-billed Duck.

Inhabits Ceylon.

Bill long, black, a red spot each side the base and tip with white; band across the eyes black; vent black; legs yellow.

Damiatia. White; head, upper part of the neck, shoulders and tip of the tail black; nape with a ferruginous lunule; wings greenish-black. *Damiatta Duck*.

Inhabits Northern Africa; larger than *A. boschas*.

Discors. Wing-coverts blue; secondary quill-feathers green without; band on the front white.

2. Cap and tail black; greater wing-coverts with a white spot; secondary quill-feathers without, chin and belly white.

Inhabits *America*: 14 inches long; feeds on corn; flesh good. Head and neck violet; cap and bill black; before the eyes each side a white streak; body brown waved with grey; wing-spot green, the upper part edged with white; legs yellow.

Female, head, neck and body variegated with grey and brown.

Vidua. Brown; fore-part of the head white; legs blue.

Spanish Duck.

Inhabits the lakes of *Carthagen* in *America*; less than *A. autumnalis*.

Bill, eyes and longitudinal streak from the chin through the middle of the breast and belly black; chin white; neck rufous; feathers of the belly dirty-white, spotted with black at the edge; back and wings black-blue; thighs blackish.

Jacquini. Chestnut; back blackish; bill and legs black.

Jacquin's Duck.

Inhabits *St. Domingo*: size of the last; voice shrill.

Dominicana. Grey-ash; face and chin white; band across the eyes, hind-head, neck and breast black. *Dominican Duck.*

Inhabits the *Cape of Good Hope*; size of *A. boschas*.

Bill and legs black; body beneath paler.

Autumnalis. Grey; wings, tail and belly black; wing-spot tawny and white. *Red-billed whistling Duck.*

Inhabits *South America*; 21 inches long; sits on trees; is easily tamed, but very quarrelsome.

Bill red, tip with black; irids hazel; crown, back and scapulars chestnut; breast and armpits yellowish-ash; wing-coverts cinereous; legs yellow.

Labradora. Brown; head and neck reddish-white; collar and pectoral band black; scapular and secondary quill-feathers white. *Pied Duck.*

Inhabits *Labradore*: 19 inches long.

Bill orange at the base, the lower mandible dusky; from the

crowns

crown to the nape a black streak ; head and neck inclining to rufous ; legs yellow.

Female beneath whitish ; wings with a white spot ; legs black.

*Supercilio-
sa.*

Grey ; eyebrows white ; chin and throat dirty-white ; wing-spot green-blue, edged with black.

Supercilious Duck.

Inhabits *New Zealand* ; 21 inches long.

Bill plumbeous, tip with black ; band beneath the eyes white ; legs dusky-ash.

*Curvirof-
tra.*

Black ; middle tail-feathers (of the male) recurvate ; chin with an oval white spot ; bill hooked.

Curve-billed Duck.

Inhabits the *Netherlands* ; larger than *A. boschas*.

Iris tawny ; head, neck and rump greenish-black ; 5 outer quill-feathers white ; chin white ; wing-spot deep shining blue.

* *Boschas.*

Cinereous ; middle tail-feathers (of the male) recurvate ; bill straight ; collar white. *Mallard. Wild Duck.*

2. Varies in its colours by domestication. *Tame Duck.*

3. Back sooty ; much larger.

4. Size of 3 ; body tinged with grey.

5. Back black spotted with yellowish ; size of 3.

6. Bill hooked.

Inhabits *Europe, Asia and America*, about stagnant waters ; 23 inches long ; feeds on frogs, snails and almost any fishy substance ; builds sometimes near waters, sometimes in trees ; lays 10—16 blueish-white eggs.

Bill greenish-yellow ; head and neck glossy-green ; scapulars white with wavy brown lines ; back brown ; vent black-green ; breast chestnut ; belly grey ; wing-spot violet-green, edged above with a black and a white line ; 2 middle tail-feathers dark-green, recurvate.

Female reddish-brown spotted with black.

*Galerica.
lata.*

Pendent crest and hind-part of the back each side with a recurved, compressed, elevated feather. *Chinese Duck.*

Inhabits *China and Japan* ; something less than *A. penelope*.

Bill red ; iris chestnut ; crest green and red ; legs tawny ; back brown, shining with blue-green ; wing-spot blue-green, the lower edge white ; wings brown ; belly white ; tail pointed, brown, edged with blue-green ; legs tawny.

Female with 2 black streaks on the wings ; breast with round brown spots.

U u 2

Sponsa.

Sponsa. Pendent crest double, varied with green, blue and white.
Summer Duck.

Inhabits the warm and temperate parts of *America*: 19 inches long; migrates, and builds in the holes or branches of trees. Bill and legs red; crest striate; irids flame-colour; chin white; neck and breast claret, the latter with triangular white spots; back brown; scapulars blue-green; flanks whitish with black lines.

Female less; body brown, beneath dirty-white, varied with brown and triangular whitish spots.

Arbarca. Brown; head subcrested; belly spotted with white and black.
Black-billed whistling Duck.

Inhabits *Guiana* and *Jamaica*; migrates in winter to *Carolina*; less than *A. boschas*; sits and builds in trees.

Bill black; crown dusky; hind-head, back and shoulders brown; temples and chin white; throat white and with the rufous breast spotted with black; wings and tail dusky; legs long, lead-colour.

Cristata. Crested; cinereous; throat spotted with pale straw-colour; wing-spot blue, beneath edged with white; wings and pointed tail black.
Crested Duck.

Inhabits *Statenland*: 28 inches long.

Bill black; irids red; crown dusky.

Obscura. Brown, beneath edged with yellow; wing-spot blue with a transverse black bar, tail wedged, dusky, edged with white.
Dusky Duck.

Inhabits *New York*; 2 feet long.

Bill, crown, primary quill-feathers and legs dusky; neck pale.

Islandica. Crested; black; throat, breast and belly white; legs salmon.
Iceland Duck.

Inhabits *Iceland*.

Novæ Seelandiæ. Black, beneath ashy; quill-feathers cinereous, the secondary with a white band; tail dirty-green.
New Zealand Duck.

Inhabits *New Zealand*: 15 inches long.

Bill blueish-white, with a black nail at the tip; head and neck purplish; wings and upper part of the body green; legs pale ash.

Rufina.

Rufina. Black; head and upper part of the neck testaceous; crown reddish, (of the male) crested; wings beneath and at the edge white; tail brown. *Red-crested Duck.*

Inhabits the *Caspian Sea* and the lakes of vast deserts of *Tartary*; solitary; is sometimes found in *Italy* and *Barbary*.

Bill carmine; *irids* brown; *crest* rounded, tumid; *legs* brown, red on the fore-part.

Female brown; *bill* reddish; *crest* o.

Nyroca. Olive-black; head, throat, breast and flanks chestnut; belly white; rump black; vent snowy.

Olive-tufted Duck.

Inhabits the *Tanais*: 16 inches long; feeds on vegetables, seeds, and sometimes fish; migrates; flesh good.

Male; head tumid behind, not crested; *irids* whitish.

Female; less, dirty-reddish where the male is chestnut; *belly* whitish, waved; *back* more inclining to rufous.

Arabica. Grey spotted; beneath and rump whitish with cinereous spots; wing-spot blackish, white on the fore and hind-part. *Arabian Duck.*

Inhabits *Arabia*.

Bill yellow, black in the middle; *legs* yellowish.

Alexandrina. Bill and rump black; neck cinereous, with white semi-circles; belly whitish without spots.

Alexandrian Duck.

Inhabits *Alexandria*: *legs* yellowish-ash.

Gallinaria. Brown; wings above black, beneath white, edged with brown; quill-feathers 4—20, white in the middle.

Egyptian Duck.

Inhabits *Alexandria*.

Bill brown, beneath black; *chin* black; *belly* and *tail-coverts* white; *legs* blue-ash.

Sirfairs. Bill beneath yellow; wing-spot obliquely divided, upper half silky-green, lower black, before and behind white.

Inhabits *Arabia*.

Bill lead-colour; *chin* white; *crown* brown; *back* brown, the feathers edged with white; *belly* whitish; *legs* grey.

Balbul.

Balbul. Bill black ; wing-spot above obliquely green, beneath obliquely black.

Inhabits *Cahira* ; is probably a variety of the last.

Body cinereous ; head (of the male) brown ; temples with a large reddish-green spot ; rump greenish-black ; legs cinereous.

• *Fuligula.* Crest pendent ; body black ; belly and wing-spot white.

Tufted Duck.

2. Brown ; head, bill and legs black.

3. Black ; back brown ; head and beginning of the neck rufous.

4. Beneath white ; head and neck rufous.

Inhabits *Europe* and *North Asia* ; 16 inches long.

Bill broad, livid, tip with black ; irids golden ; head greenish ; shoulders blackish-brown, with pale straw-coloured dots ; legs dusky-blue.

Female brownish without the crest. In the young bird the head, neck and breast are chestnut, and the back, wings and tail black.

32. MERGUS. Bill toothed, slender, cylindrical, hooked at the point : nostrils small, oval, in the middle of the bill : feet 4-toed, the outer toe longest.

Merganser.

Cucullatus. Crest globular, white each side ; body above brown, beneath white.

Crested M.

Inhabits *North America* ; 17 inches long ; builds near lakes, forming its nest of grass, and down plucked from its own breast ; lays 4—6 white eggs.

Bill and legs black ; irids golden ; crest larger than the head, edged with black.

Female brown ; crest less, ferruginous.

• *Merganser.* Subcrested ; white ; head, neck, upper part of the breast and wings glossy-black ; tail cinereous.

Goosander.

Inhabits

Inhabits northern parts of *Europe, Asia* and *America*; 29 inches long; builds sometimes in trees, but generally among rocks, feeds on fish; its flesh is rancid.

Bill, legs and irids red; greater quill-feathers black, lesser white.

**Castor.* Crested, cinereous; head and upper part of the neck bay; chin, middle quill-feathers and belly white.

Dun-diver.

Inhabits with the last; 23—27 inches long.

Bill and irids red; belly sometimes flesh-colour.

**Serrator.* Crest pendent; breast variegated with reddish; collar white; tail-feathers brown varied with cinereous.

Red-breasted M.

Inhabits northern parts of *Europe, Asia* and *America*; 21 inches long.

Bill beneath and legs red; feathers of the sides of the breast large, white, edged with black, covering the fore-part of the folded wings.

Male, hind-head crested; head and upper part of the neck green.

Female scarcely crested; head and beginning of the neck rufous.

2. Above black, beneath white; greater quill-feathers black; tail brown; variety of the male.

3. Above black, beneath white; neck bay; wings with a transverse white stripe; greater quill-feathers and tail black; variety of the female.

Imperialis. Varied with black, brown and grey; head smooth; first quill-feathers black; wing-spot o; bill and legs reddish-white.

Imperial Goose.

Inhabits *Sardinia*; size of a goose; tongue fringed.

**Albellus.* Crest pendent; hind-head black; body white; back and temples black; wings variegated.

Smew. White Nun.

Inhabits *Europe* and *America*; 16—17 inches long.

Bill and legs black; wing-spot white; nape, oval spot from the bill surrounding the eyes, back, and 2 arched lines each side near the beginning of the wings black.

Female, head smooth, grey; band across the eyes black, and under the eyes a white spot; body above blackish-brown, beneath white; upper part of the head bay; chin white.

**Minutus.*

**Minutus*. Brown-ash, beneath and chin white; head and upper part of the neck ferruginous; wing-spot white before and behind. *Minute M.*

2. Head smooth; back black; belly white; bill and legs blood-red; first quill-feathers black; tail cinereous.

Inhabits with the last, 2) *Astracan*; 14½ inches long; very much resembles the female of the last, but wants the black oval eye-spot.

Furcifer. Black; head smooth; hind-head, neck, vent, belly and lateral tail-feathers white; front and cheeks pale brown; tail forked. *Fork-tailed M.*

Inhabits *Curonia*.

Bill black; dirty-red at the sides; from the ears each side, through the sides of the neck to the breast a black band.

Fuscus. Crested; brown, beneath white; chin and breast spotted with black; wings black with a white band. *Brown M.*

Inhabits *Hudson's Bay*; 17½ inches long.

Hind-head crested; behind the eyes a white band extending to the nape; lower part of the crest black; breast blueish waved with whitish; legs yellowish.

Ceruleus. Crested; blue; crown and tail black; chin, belly and spot on the wings white. *Blue M.*

Inhabits *Hudson's Bay*; 14 inches long.

Bill long, black; legs blue.

33. ALCA. Bill toothless, short, compressed, convex, often transversely furrowed; lower mandible gibbous near the base: *nostrils* linear: legs (mostly) 3-toed. *Auk.*

These birds principally inhabit the *Arctic Seas*; are very stupid, and build in rabbits' holes and fissures of rocks; lay one egg; their colour is pretty uniform; above black, beneath white; the body is shaped like a duck's, the bill with oblique, curved lines tending to the point, which is sharp.

**Arctica*.

* *Arctica*. Bill compressed, 2-edged, with 4 grooves; orbits and temples white; upper eye-lid daggered. *Puffin*.

2. Crown cinereous; chin and body above black; beneath white.

Inhabits the northern seas of *Europe*, *Asia* and *America* in vast flocks; 12 inches long; feeds on small fish, crabs and seaweeds; flesh rank except when very young; eggs excellent.

Body black; cheeks, breast and belly white; bill red, with a black base; upper eye-lid with a sharp fleshy point; legs red.

Labrador. Bill carinate, the lower mandible angular; nostrils covered with a dusky membrane. *Labradore Auk*.

Inhabits *Labradore*; 12 inches long.

Bill narrow, upper mandible dusky-red, lower whitish, with a black spot near the tip; orbits and temples whitish; chin, wings and tail dusky; legs red.

* *Impennis*. Bill compressed, edged; an oval spot each side before the eyes. *Penguin*. *Great Auk*.

Inhabits *Europe* and *America*; 3 feet long; is timid; cannot fly, and feeds on fish; egg 6 inches long, white, with purplish lines and spots.

Bill black, with 8—10 grooves; wings short, appearing to be only the rudiments; secondary quill-feathers tipped with white; legs black.

* *Torda*. Bill with 4 grooves, and a white line each side as far as the eyes. *Razor-bill*.

Inhabits *Europe* and *North America*; 18 inches long; lays 1 whitish-brown egg varied with yellowish, and irregular purple spots, in inaccessible rocks and precipices.

Bill black, with 4 transverse grooves, the largest white; body black, beneath from the middle of the throat white; secondary quill-feathers tipped with white; legs black; in the young bird the bill has but one groove, and in the still younger there is no line from the bill to the eyes.

* *Cristatella*. Bill compressed, a little grooved; body blackish; back with rusty spots; crest frontal, bending forwards.

Crested Auk.

Inhabits the islands between *Asia* and *America*; a foot long; is stupid and easily caught; lays in rabbits' holes or clefts.

Bill red; crest with 6 or 7 feathers longer than the rest; behind the eyes each side a white band; tongue thickish, entire; rump hoary; legs livid.

Tetracula. Bill smooth; compressed; body black, beneath cinereous; spot on the nape and lateral tail-feathers at the tip rusty; front subcrested. *Dusky Auk.*

Inhabits the sea between *Japan* and *Kamtschatka*; 11 inches long.

Bill yellowish-brown, with a whitish keel; irids white, with a black circle; face long, covered with reflected feathers; behind the eyes a white streak; legs livid.

Pittacula. Bill compressed, with a single groove in each mandible; a white spot on the upper eyelid, between and under the eyes. *Perroquet Auk.*

Inhabits with the last; is often the sign of approaching land to seamen; egg dirty-white spotted with brown.

Bill red; cere o, instead of which is a small leathery wrinkle; nostrils pervious; tongue subulate, curved, nearly triangular, channelled above; tail very short; legs yellow.

Cirrata. Black; bill with 4 grooves; sides of the head, area of the eyes and angle of the chin white; eyebrows with a long yellowish tuft. *Tufted Auk.*

Inhabits *Kamtschatka* and the adjacent islands; 19 inches long; lives on the water for days together, but does not go far from land; feeds on shell-fish, which it opens with its bill.

Bill and legs red; front, sides of the head and chin white.

Female less; bill with 2 grooves; tuft shorter; egg white.

* *Alle*. Bill smooth, conic; beneath and tips of the hind-quill-feathers white; legs black. *Little Auk.*

2. Totally white.

3. Breast rufous.

Inhabits *Europe* and *America*; 9 inches long.

Bill short, black; back with a few dusky lines; secondary quill-feathers tipped with white; above the eyes a white dot.

Antiqua. Bill black, whitish at the base; feathers of the neck long, linear, white. *Ancient Auk.*

Inhabits islands of the *Northern Sea*; 11 inches long.

Crown and chin black; body above sooty, beneath white.

Pygmaea. Bill carinate, depressed at the base; body black, beneath cinereous. *Pigmy Auk.*

Inhabits the islands between *Asia* and *America*; 7 inches long.

Bill black, carinate on the back, a little curved at the tip; body sooty-black; middle of the belly and chin whitish; legs blackish.

34. APTENODYTES.

34. APTENODYTES. *Bill* straight, a little compressed and sharp-edged; the upper mandible longitudinally obliquely grooved, the lower truncate at the tip: *tongue* with reflected prickles: *wings* fin-shaped, without quill-feathers: *feet* fettered, 4-toed. *Penguin.*

This genus much resembles the last in colour, food, stupidity, eggs, nest, position of the legs behind the equilibrium, and consequent erect posture; they are totally unfit for flight, but swim dexterously; *nostrils* linear, hid in the groove of the bill; *palate* as well as the tongue beset with a few rows of conic, retroflected, stiff papillæ; *wings* covered with a strong, broad membrane; *tail* short, wedged, the feathers very rigid.

Chrysocome. **Bill** reddish-brown; legs reddish; frontal crest black, erect, auricular, sulphur-colour, shed each side. *Crested P.*
Inhabits *Falkland Islands*, and the southern parts of *New Holland*; 23 inches long; erects the crest when irritated; deposits its egg in a naked nest dug in the earth, among pelecans.
Body blueish-black, beneath white; *wings* beneath white.
Female with a yellowish stripe on the eyebrow.

Patagoni. **Bill** and legs black; ears with a golden spot. *Patagonian P.*
cc. Inhabits *Falkland Islands* and *New Guinea*; 4 feet 3 inches long.
Lower mandible tawny at the base; *irids* hazel; *head* and hind-part of the neck brown; *back* black-blue; *breast*, *belly* and *vent* white.

Papua. **Bill** and legs reddish; hind-head with a white spot. *Papuan P.*
Inhabits with the last; 2½ feet long.
Upper mandible tipped with black, lower saffron; *irids* yellow.

Antarctica **Bill** black; legs reddish; line on the throat white. *Antarctic T.*
Inhabits

Inhabits the *Southern Ocean* ; 25 inches long.
Bill shorter than the head ; *irids* yellowish ; *soles* black.

Magellana. *Bill* black ; legs reddish ; eyebrows white ; pectoral band and collar round the middle of the neck black.

Magellanic P.

Inhabits *Falkland Islands* ; size of the last.
Bill with a transverse purplish band ; *irids* reddish-brown ; legs with a few black spots.

Demersa. *Bill* and legs black ; eyebrows and pectoral band white. *Cape P.*

2. *Bill* black, with a white bar ; eyebrows white ; pectoral band black.

3. *Bill* black, with a white bar ; chin and orbits black.

Inhabits the *Atlantic* and *Antarctic Seas* : chiefly round the *Cape of Good Hope* : 21 inches long ; lays 2 white eggs.

Bill blackish, with a pale band towards the tip ; body above black, beneath white ; sides of the head and chin grey ; legs black or reddish.

Catarractes. *Bill* and legs red ; head brown. *Red-footed P.*
 Each mandible pointed, the lower a little hooked ; body above dirty-purple, beneath white ; wings brown, fringed with white.

Torquata. *Bill* and legs black ; area of the eyes naked, blood-red ; collar extending half way round, white. *Collared P.*
 Inhabits *New Guinea* and *New Georgia* ; 18 inches long.
Bill, *irids* and legs black ; area of the eyes oval ; body above black, beneath white.

Minor. *Bill* black ; legs white. *Little P.*
 Inhabits *New Zealand* : 15 inches long ; digs deep holes in the earth, in which it lays its eggs.
Bill dusky, the lower mandible glaucous at the base ; body above blue-ash, the feathers at the base deep-brown ; area of the eyes brownish-ash ; wings above dusky, beneath white ; tail-feathers 16, short, rigid.

Chilensis. Body cinereous, downy. *Chili P.*
 Inhabits *Chili*. Size of a duck. Feathers curled.

Molina.

- Molina*. Varied with cinereous and blue, beneath white; feet 3-toed. *Molin's P.*
 Inhabits *Chili*; size of a duck; lays 6—7 white eggs, spotted with black, in the sand; neck long.
Head small, compressed; *bill* small.

35. PROCELLARIA. *Bill* toothless, a little compressed, hooked at the point; mandibles equal: *nostrils* cylindrical, tubular, truncate, lying on the base of the bill: *feet* palmate; the back-toe pointing downwards, sessile, sharp, a mere spur. *Petrel.*

These live chiefly at sea, and except at breeding-time are seldom seen near land; have the faculty of spouting from their bills, to a considerable distance, a large quantity of pure oil; and feed on the fat of dead whales and other fish.

- Obscura*. Black, beneath white; membrane connecting the toes tawny.
 Inhabits *North America*; 13 inches long.
Bill black, horny at the sides; *nostrils* distinct; sides of the neck varied with brown and white; legs black without, pale within.

- Pacifica*. Black, beneath dusky; legs spotted with black. *Pacific P.*
 Inhabits in vast flocks the islands of the *Pacific Ocean*; 22 inches long.
Bill lead-colour, much hooked; *nostrils* elevated, oval, distinct, obliquely placed; legs pale.

- Cerulea*. Whitish-blue, beneath white; bill and legs blue. *Blue P.*
 Inhabits the *Southern Ocean*; 12 inches long.
Bill black at the tip, and with the legs blueish; outer quill-feathers entirely, the next within, the rest tipped with white; area beneath the eyes and band on the breast dusky.

- Vittata*. Blueish-ash, beneath white; legs black. *Broad-billed P.*
 Inhabits the *Antarctic Seas*; lays in holes or rocks; flies by night in numerous flocks; 12 inches long.

Bill

Bill blueish-grey, very broad at the base, each mandible hooked, and serrate at the edges; *tongue* very broad, fleshy; *temples* white; beneath the *eyes* a black streak; *quill* and 6 middle *tail-feathers* blackish at the tip.

Urinatrix. Blackish-brown, beneath white; bill and chin black; legs blue-green, without the spur behind. *Diving P.*

Inhabits round *New Zealand* in numerous flocks; $8\frac{1}{2}$ inches long; dives remarkably well.

Lower *mandible* in the middle at the sides white; *irids* dusky-blue; skin of the *chin* lax.

• *Pelagica*. Black; rump white. *Stormy P.*

Inhabits most seas; 6 inches long; except in breeding-time is seldom seen near the shore; braves the utmost fury of storms, sometimes skimming with incredible velocity along the hollows of the waves, sometimes on the summits; if seen hovering round the stems of vessels, is a sure prelude to seamen of foul weather.

Three outer *tail-feathers* whitish at the base.

2. Black; head and sides blueish; scrag green; wing-coverts and rump spotted with green.

Fregata. Black, beneath white; legs black. *Frigate P.*

Inhabits the *Southern Seas*; $8\frac{1}{2}$ inches long.

Furcata. Silver-grey; rump white; tail forked; legs black.

Fork-tailed P.

Inhabits the seas between *Asia* and *America*; 10 inches long.

Bill black, upper mandible much hooked; inner flexure of the *wings* black; outer *tail-feathers* white on the outside.

Fuliginosa. Mixed black and brown; head and neck sooty; tail forked; wings, bill and legs black. *Sooty P.*

Inhabits *Otaheite*; 11 inches long; *irids* pale ash.

Marina. Back and wing-coverts brown; crown and neck blueish-ash; rump blueish; cheeks and body beneath white. *Marine P.*

Inhabits the *Southern Ocean*; $8\frac{1}{2}$ inches long.

Under the *eyes* each side a cinereous streak; legs black.

Deolata. Greenish-ash, beneath white; wings and rounded tail dusky, the latter tipped with brown. *Brown-banded P.*

Inhabits

Inhabits *Desolation Island*; 11 inches long.

Bill black, tip with yellowish; temples and area of the eyes white; legs brown, the membrane connecting the toes yellow.

Nivea. Snowy; shafts of the feathers and bill black; legs dusky-blue. *Snowy P.*

Inhabits the colder parts of the *South Sea*; 12 inches long.

Bill and legs blackish-blue, the membrane pale.

Melanopus Black, beneath hoary; legs pale; frontlet and chin grey, with minute blackish spots; bill and part of the toes black. *Black-teed P.*

Inhabits *North America*; 13 inches long.

Bill black; legs pale; toes and connecting membrane half black, half white.

**Glacialis*. Whitish; back hoary; bill and legs yellowish.

Fulmar P.

2. White; middle of the back hoary; wings blackish.

Inhabits the *Southern and Northern Seas*; 17 inches long; a stupid and fearless bird; feeds on fish, dead whales, and any filthy matter; flesh rancid.

Bill pale ash, yellowish at the tip; nostrils composed of 2 tubes lodged in one sheath; legs yellowish-ash.

Cinerea. Cinereous; beneath white; tail black; bill yellowish; legs blueish. *Cinereous P.*

Inhabits the *Antarctic circle*; 20½ inches long.

Tail rounded, above black, beneath whitish; legs pale, the membrane yellowish; breast and belly sometimes blackish.

Gigantea. Brownish spotted with white; beneath white; shoulders, wings and tail brown; bill and legs yellow.

Giant P.

Inhabits the *Arctic and Antarctic Seas*; migrates, and flies in flocks; 40 inches long.

At the angles of the mouth a naked, wrinkled, yellow membrane; feet 5-toed? connecting membrane dusky.

brasiliensis Blackish; lower part of the neck yellow. *Brazilian P.*

Inhabits *Brazil*; size of a goose; frequents the mouths of rivers, and makes its nest on the shore.

Head rounded, tumid; neck long.

Equinge

Æquinoxialis. Brown, without spots; bill yellow; legs brown. *Black P.*

2. Legs reddish-black.

Inhabits the *Cape of Good Hope* and *New Zealand*, 2) *Kamt-schatka*; 23 inches long; 2) half as large again; chin sometimes white.

Grisea. Sooty; lower wing-coverts white; bill brown; legs blueish on the fore-part. *Grey P.*
Inhabits the *Southern Hemisphere*; 14—15 inches long.

Gelida. Blueish-ash; back blackish; chin, throat and breast white; bill yellow; legs blue. *Glacial P.*
Inhabits the *Icy Seas*: 19 inches long.
Tube of the nostrils, edges of the mandibles, back of the upper and tip of the lower black.

Alba. Blackish-brown; breast, belly and vent white. *White-breasted P.*

2. Sooty, beneath cinereous; face varied with white and brown; legs yellowish; toes and membrane half black.

Inhabits islands of the *Pacific Ocean*: 16 inches long.
Bill black; chin whitish; tail rounded; legs brown.

Antarctica Brown, beneath blueish-white; tail white tipped with black; legs lead-colour. *Antarctic P.*

Inhabits the *Antarctic circle*; 16 inches long.

Bill brown tipped with black; irids hazel; secondary quill-feathers white tipped with dusky-brown; rump white.

Capensis. Variegated with white and brown. *Pintado P.*

2. Variegated with yellowish and brown.

Inhabits the *Southern Hemisphere*; 14 inches long.

Bill and legs black; temples white and black.

**Puffinus.* Above black, beneath white; legs rufous. *Shearwater P.*

2. Above cinereous, beneath white; tail clear white.

Inhabits the *Southern and Arctic Seas*; 15 inches long.

Bill yellow tipped with black, 2) black; hind-head whitish-ash; spurious wings spotted with black; first quill and tail-feathers brown without, white within; legs often brown.

36. DIOMEDEA.

36. DIOMEDEA. *Bill* straight; upper mandible hooked at the point, lower truncate: *nostrils* oval, wide, prominent, lateral: *tongue* very small: *feet* 4-toed, all placed forward. *Albatrosses*.

Exulans. White; back and wings with white lines; bill pale yellow; legs flesh-colour; quill-feathers black; tail rounded, lead-colour.

Wandering A. Man of war bird.

2. Brown, above blackish; bill red, tip with blackish; down cinereous, whitish towards the head.

3. White; region of the shoulders, wings and tail blackish-brown; head and upper part of the neck deep straw-colour; upper mandible white or reddish, lower red, with a white keel.

Inhabits most seas, but chiefly within the *Tropics*: $3\frac{1}{2}$ —4 feet long; feeds on fish and molluscæ; is gregarious, and migrates; lays numerous white eggs on shore, as large as those of a goose, whose white is said not to be hardened by boiling; flesh hard.

Bill grooved, dirty-yellow; *nostrils* remote from the base, rising out of the furrow; legs flesh-colour; tail-feathers 14; thighs naked; wings when extended 10—13 feet.

Spadicea. Bill whitish; body deep chestnut-brown; belly pale; face and wings beneath whitish. *Chocolate A.*

Inhabits the *Pacific Ocean*: 3 feet long.

Iris brown; legs blueish-white; claws white.

2. Entirely grey-brown; bill and legs pale.

Inhabits *China*: $2\frac{1}{4}$ feet long.

Chlororhynchus. White; bill black, keel of the upper mandible and base of the lower yellow; body above black-blue, beneath white. *Yellow-nosed A.*

Inhabits the *Pacific Ocean*; about 3 feet long.

Iris brown; nape and rump white; legs pale-yellow, the forepart and connecting membrane dusky.

Fuliginosa. Brown; head, bill, tail, quill-feathers and claws sooty-brown; area of the eyes white. Sooty A.

Inhabits seas within the *Antarctic* circle; 3 feet long.

Irids yellowish; *feathers* of the wings and tail with a white shaft, the latter pointed; *legs* lead-colour.

37. PELECANUS. *Bill* straight, hooked at the point and furnished with a nail: *nostrils* an obliterated slit: *face* nakedish: *legs* equally ballancing the body, all the 4 toes palmate. *Pelecan*.

These are extremely expert at catching fish with their long bills, and are often tamed for that purpose; are very voracious and gregarious; the claw of the middle-toe is frequently serrate.

A. *Bill without teeth.*

Onocrotalus. White; gullet pouched. White P.

Inhabits *Asia*, *Africa* and *South America*; 5 feet long; feeds on fish, which it catches by dipping its bill in the water, and devours them on a neighbouring rock; makes its nest on the banks of rivers, and lays a white eggs, sometimes in dry deserts, when it carries water in its pouch to the young.

Bill 15—16 inches long, red, when young yellow, upper mandible depressed, broad, the lower forked; gular pouch flaccid, membranaceous, capable of great distention; *irids* hazel; gape of the mouth large; head naked at the sides, covered with a flesh-colour skin; hind-head subcrested; body with a tinge of pale flesh-colour; spurious wings and first quill-feathers black; legs lead-colour.

Rosceus. Rosy; gullet pouched. Rose-coloured P.

Inhabits *Manilla*; size of a goose.

Bill and legs black; area of the eyes naked, and pouch yellow.

Fuscus. Cinereous-brown; gullet pouched. Brown P.

Inhabits *America*; 4 feet long.

Bill blueish-red, tip with black; *irids* ashy; pouch dirty-blue with red lines; hind-head subcrested, and with the neck whitish; primary quill-feathers black; tail-feathers 18; legs plumbeous.

Manilla.

Mamillensis Entirely brown : gullet pouched.
Inhabits *Manilla* : resembles *P. roseus*.

Manilla P.

Philippensis. White ; crest varied with white and brown ; gullet pouched.

Philippine P.

Inhabits the *Philippine Islands* ; $4\frac{1}{2}$ feet long.

Bill and naked area of the eyes flesh-colour ; feathers of the head and neck soft, silky, whitish ; pouch pale ; breast, belly and rump white ; quill-feathers blackish ; legs red.

Rufescens. Reddish ; crested head and neck reddish-white ; tail dusky-ash ; gullet pouched.

Red-backed A.

Inhabits *Africa* ; 5 feet long.

Bill, naked area of the eyes and pouch dirty-yellow ; crest 4 inches long ; body beneath pale ; scapulars grey lead-colour ; quill-feathers black ; feathers of the breast long, narrow ; legs yellow.

Carolinensis. Above dusky, beneath white ; gullet pouched.

Charles-town P.

2. Beneath reddish-white ; upper mandible rounded at the base.

3. Lower part of the back striate with black and dusky-white.

Inhabits *America* ; above 3 feet long ; pouch very large.

Erythrorhynchus. Crested ; white ; gullet pouched and streaked with black.

Rough-billed P.

Inhabits *North America* ; $4\frac{1}{2}$ feet long.

Bill reddish-yellow, rough, with elevated ridges from the middle to the tip, lower mandible each side with a black spot in the middle ; greater quill-feathers black ; legs yellow.

Apilus. Tail forked ; body and orbits black ; bill red.

Frigate P.

Inhabits within the *Tropics* ; 3 feet long ; extent of the wings 14 feet ; flies so high as hardly to be seen, and far from land ; builds in trees or rocks, and lays 1—2 flesh-colour eggs spotted with red.

Male : pouch deep red ; wing-coverts rufous.

Female : belly white.

Minor. Tail forked ; body ferruginous ; bill and orbits red.

Lesser frigate P.

Resembles the last, but less ; about 3 feet long.

Leucocephalus. Tail forked; body brown; head, neck, breast and belly white; bill dusky. *White-headed frigate P.*
 Inhabits *Ascension Island*; near 3 feet long.
 Bill pale at the tip, each mandible much hooked; temples feathered; legs tawny.

Palmerstoni. Tail forked; body glossy green-brown, beneath white; throat varied black and white; belly white; vent black. *Palmerston frigate P.*
 Inhabits *Palmerston Island*; 3 feet 2 inches long.
 Bill black; temples feathered; legs blackish.

Carbo. Tail rounded; body black; head subcrested. *Corvorant.*
 Inhabits *Europe, Asia and America*; 3 feet long; is exceedingly voracious; builds on the highest cliffs hanging over the sea, and in trees; eggs greenish; was formerly tamed by the English to catch fish, and is still by the Chinese.
 Bill blackish, the base of the lower mandible covered with a yellowish skin, extending under the chin, and forming a pouch; irids green; chin white, surrounded with a yellowish arch; tail long, lax, feathers 14; thighs with a white spot dotted with black; legs black.

Graculus. Tail rounded; body black, beneath brown; tail-feathers 12. *Shag. Crane.*
 Inhabits *Northern Europe and Iceland*; 2½ feet long.
 Head and neck black with a green gloss; back and wing-coverts purple-black, glossy at the edges; middle of the belly dusky; legs black.

2. Chin yellow; tail wedged.

Inhabits near the *Cape*.

3. Blackish, beneath brown; feathers above edged with black.
 Inhabits *Cayenne and the Caribbee Islands*; 26 inches long.

Pygmaeus. Tail wedged, feathers 12; body black with a few scattered white spots. *Dwarf Shag.*

Inhabits the *Caspian Sea*; size of the garganey.

Female brown, without spots.

2. Chin mouse-colour; legs black.

Head and neck above and on the sides chestnut, with a few snowy spots; belly hoary, spotted with brown; wing-coverts black.

Punctatus.

Punctatus. Crested; black; tail rounded; wings dark-ash spotted with black; sides of the neck with a white line.

Spotted Shag.

Inhabits *New Zealand*; 21—24 inches long.

Bill lead-colour; *orbits* naked, reddish; feathers on the middle of the *back* and *wings* with a black spot; *body* above greenish-black; varies in having the bill and legs yellow.

**Cristatus*. Shining green, beneath dusky; bill and legs dusky; head crested.

Crested Shag.

Inhabits *Northern Europe*; 2 feet 3 inches long.

Bill blackish; *irids* green; feathers each side the head long, forming a crest; *tail-feathers* 12, dusky-green; head often not crested.

Violaceus. Crest erect; body shining violet-black.

Violet Shag.

Inhabits *Kamtschatka* and the neighbouring isles.

Uriel. Shining green; throat and orbits white; face naked, blueish-red; wings and tail dusky; legs black.

Red-faced Shag.

Inhabits *Kamtschatka*; 2 feet 10 inches long.

Bill reddish-green tipped with black; fore-part of the neck and back with a few linear white feathers; *tail-feathers* 12, blackish.

Caruncu-
latus. Black, beneath white; face naked, carunculate, red; orbits elevated, blue; wings with a white band.

Carunculated Shag.

Inhabits *New Zealand*; about 20 inches long.

Bill dusky; *irids* whitish; head a little compressed; legs flesh-colour or brownish.

Magella-
nicus. Black, beneath white; temples and chin naked, reddish; head tumid; temples with a white line; tail wedged.

Magellanic Shag.

Inhabits *Terra del Fuego* and *Statenland*; 30 inches long.

Bill black; feathers of the flanks striate with white; legs brown.

Varius. Brown, beneath white; rump, wings and rounded tail black; eyebrows pale; area of the eyes naked, yellow.

Pied Shag.

Inhabits

Inhabits *New Zealand* ; $2\frac{1}{2}$ feet long ; builds in trees ; eggs pale greenish-white.

Bill yellow, dusky on the upper part ; legs flesh-colour.

Cirratus. Black, beneath white ; crown crested ; wings with a white band ; tail rounded ; bill and legs yellow.

Tufted Shag.

Inhabits *New Zealand* ; 2 feet 10 inches long.

Orbits naked ; crest turned back ; tail-feathers 14, pointed.

Africanus. Brown-black, beneath varied white and blackish ; chin white ; wing-coverts blue-grey, edged and tipped with black.

African Shag.

Inhabits *Africa* : 25 inches long.

Bill yellowish, upper mandible dusky ; tail wedged, feathers 12, the middle 4 and outer ones pale brown, the rest black ; legs black.

B. *Bill serrate.*

Thagus. Brown ; tail rounded ; gullet pouched, and covered with short cinereous feathers.

Saw-billed Pel.

Inhabits *Chili* ; size of a turkey ; extent of wings 9 feet.

Bill a foot long, each mandible hooked ; pouch very large ; legs black.

**Bassanus*. Tail wedged ; body white ; bill and primary quill-feathers black ; face blue.

Gannet.

2. Brown spotted with white, beneath white ; orbits naked, blackish.

3. Brown with triangular white spots, beneath whitish, spotted with brown ; bill, wings, tail and legs brown.

Inhabits *Europe* and *America*, 3) *Cayenne* ; 3 feet long ; except in breeding-time seldom comes near the shore ; migrates.

Iris yellowish ; tail-feathers 12 ; eyes surrounded with a naked skin of fine blue ; legs black, greenish on the fore-part.

Piscator. Tail wedged ; body whitish ; all the quill-feathers black ; face red.

Lesser Gannet.

Inhabits the *Chinese*, *Indian* and *American* seas ; $2\frac{1}{2}$ feet long.

Bill, face and legs reddish ; chin naked, black ; wing-coverts and tips of the scapulars black ; tail-feathers 14, white at the base, other part black.

Sula.

Sula. Tail wedged; body whitish; primary quill-feathers tipped with blackish; face red. *Booby.*
Inhabits *South America* and neighbouring isles; $2\frac{1}{2}$ feet long.
Bill grey, brownish at the base; irids pale ash; chin bald, yellowish; body beneath white; tail brownish at the tip; legs yellowish.

Fiber. Tail wedged; body brownish; all the quill-feathers blackish; face red. *Brown Booby.*
Inhabits *America* and *Africa*; above 2 feet long.
Bill and legs red; body beneath paler; rump whitish; tail-feathers 14, 2 middle ones cinereous, the rest brown tipped with grey.

Sinensis. Tail rounded; body brown, beneath whitish spotted with brown; throat white. *Fishing Corvoraunt.*
Inhabits *China*, and is there tamed for the purpose of catching fish. *Staunton's China.*
Bill yellow; irids blue.

Parous. Black, beneath white; face downy. *Lesser Booby.*
Inhabits *Cayenne*; 18 inches long.

38. PLOTUS. Bill straight, pointed, tooth-ed: nostrils a slit near the base: face and chin naked: legs short, all the toes connected. *Darter.*

These have a small head, and long, slender neck, and are chiefly seen in southern climates; they live chiefly on fish, which they take by darting forwards the head while the neck is contracted like the body of a serpent.

Ashinga. Head smooth; belly white. *White-bellied D.*
Inhabits *Brazil*; 2 feet 10 inches long; builds on trees, and is hardly ever seen on the ground; when at rest sits with the neck drawn in between the shoulders; flesh oily and rancid.
Bill cinereous, yellowish at the base; irids golden; head, neck and breast reddish-grey; body above black, the scapular feathers with a white spot in the middle; tail-feathers 12, broad, long; legs yellowish-ash.

Melanogaf. Head smooth; belly black. *Black-bellied D.*
Inhabits

Inhabits Ceylon and Java ; about 3 feet long.

Bill above blueish, beneath reddish ; eyes vivid ; head, neck and upper part of the breast pale brown ; sides of the head and neck with a broad white line ; back, scapulars and wing-coverts black with white lines ; belly, wings and tail black ; legs yellowish-green.

2. Above brown, beneath black ; streaks on the scapulars and oval spots on the wing-coverts white.

Inhabits Cayenne. Between the breast and belly a rufous band.

3. Black ; back and scapulars spotted with white ; wing-coverts yellowish-white ; tail rufous at the tip.

Bill, naked part of the face, chin and legs yellowish.

4. Black ; head, neck and wing-coverts streaked with rufous and brown.

Inhabits Senegal.

Surinam-
ensis. Head crested ; belly white.

Surinam D.

Inhabits Surinam ; 13 inches long ; is domesticated, and feeds on fish, insects, especially flies, which it catches with great dexterity ; is very active.

Bill pale ; irids red ; crown black ; cheeks chestnut ; from the corner of each eye a white line ; neck with longitudinal white and black lines ; wings large ; back and tail dusky-brown, the latter wedged and tipped with white ; upper tail-coverts very long ; breast white ; toes streaked with black.

39. PHAETON. Bill sharp-edged, straight, pointed, the gape of the mouth reaching beyond : nostrils oblong : hind-toe turned forwards. Tropic-bird.

They chiefly live within the Tropics, and are often seen upon the backs of porpoises ; bill compressed, a little bent back, the lower mandible angular ; feet 4-toed ; tail wedged, the 2 middle feathers very long.

Aethereus. White ; back, rump and lesser wing-coverts streaked with white ; 2 middle tail-feathers black at the base ; bill red.

Common Tr.

2. White ; band over the eyes, scapulars towards the extremity, band above the wings and shafts of the tail-feathers at the origin black.
3. Body pale tawny.

Inhabits

Inhabits within the *Tropics*; 2 feet 10 inches long; flies very high; feeds on fish; is seldom seen on land except in breeding-time.

Bill red, the margin serrate backwards, 2) yellowish; eye-brows black; greater quill-feathers black, edged with white; tail-feathers 14, white, 2 middle ones 15 inches longer than the rest, a fourth part black; legs yellowish.

Melano-
rhynchos. Streaked black and white, beneath white; bill black; quill-feathers tipped with white, tail-feathers with black.
Black-billed Tr.

Inhabits *Palmeſton* and *Turtle* islands; 19½ inches long. Before and behind the eyes a black streak; front white.

Phanice-
tus. Rosy-flesh-colour; bill and 2 middle tail-feathers red.
Red-tailed Tr.

Inhabits *Mauritius Island*: 2 feet 10 inches long, of which the 2 middle tail-feathers measure 1 foot 9 inches; builds in hollows in the ground under trees, and lays 2 yellowish-white eggs with rufous spots.

Arch over the eyes black, broken; ends of the scapulars black at the tips; flanks dusky; legs, shafts and base of the 2 middle tail-feathers black.

40. COLYMBUS. Bill toothless, subulate, straight, pointed: throat toothed: nostrils linear, at the base of the bill: legs fettered.

The birds of this family walk on land with difficulty, but swim and dive with great dexterity: the *Guillemots* chiefly inhabit the sea, have a slender tongue, the size of the bill; the bill compressed, and covered with short feathers at the base, the upper mandible a little bent; flesh tough, and as well as the eggs nauseous: the *Divers* frequent also the northern lakes, have a strong bill, less pointed, cylindrical, the edge of the mandible turned in, the upper longer; nostrils divided in the middle by a membrane; tongue long, sharp, serrate at the base each side; legs slender, a black band between

tween the thighs; tail-feathers 20; they are monogamous, fly with difficulty, and in breeding-time frequent fresh waters: the *Grebes* are without a tail; have a strong bill; lores naked; tongue a little cleft at the tip; body depressed, thickly covered with soft, shining plumage; wings short; legs compressed, and are frequently found about the fresh waters of southern Europe.

A. Feet 3-toed. Guillemot.

Marmora. Above streaked with chesnut and brown, beneath waved with dusky and white; legs tawny; bill, tail, wings and claws black. *Marbled G.*

Inhabits western *America* and *Kamtschatka*; 10 inches long.

Crown dusky; some of the greater quill-feathers edged with white; chin dusky with white stripes.

Lodoglus. Snowy; bill and legs brownish, flesh-colour. *White G.*

2. A black spot each side behind the eyes; interscapulars and area of the wings black; upper mandible black, lower yellow.

Inhabits the *Netherlands*; size of the Garganey.

Mouth whitish within; tongue triangular, grooved above, the tip entire; back, wings and base of the tail pale grey; secondary quill-feathers brownish in the middle; claws blackish.

**Grylle*. Body black; wing-coverts white. *Black G.*

2. Sooty; wings with an oblong transverse white spot.
3. Above streaked, beneath white with cinereous bands; upper wing-coverts varied with white and black.
4. Back, wings and tail black; head, neck, body beneath, and spot on the wings white.
5. Black; crown white, waved; greater wing-coverts and body beneath varied with white and black; chin entirely black.
6. Above spotted white and black, beneath white.

Inhabits *Europe* and *America*; 13—14 inches long; feeds on fish, and builds its nest on the ground; eggs whitish, spotted with black.

Bill black; inside of the mouth and legs red; upper wing-coverts in the middle, and lower wholly white.

**Trile*

**Troile.* Body black ; breast and belly snowy ; secondary quill-feathers tipped with white. *Foolish G.*

2. Black ; beneath, cheeks and band on the wings black.

3. Tail-feathers all black.

Inhabits *Europe* and *America* ; 17 inches long, 2) 10 inches.

Bill black ; inside of the mouth yellow ; legs and tail blackish.

B. Feet 4-toed, palmate. Diver.

Sinensis. Greenish-brown with deeper spots ; breast and belly reddish ; wings and tail brown. *Chinese D.*

Inhabits *China*. Bill dusky ; irides and legs cinereous.

Striatus. Blackish, beneath white ; ^{red} head and neck grey with black lines. *Striped D.*

Inhabits the lakes of *North America* ; 2—3 pounds weight ; is very clamorous, and continually flying backwards and forwards.

Bill black, strong ; cheeks white.

**Septentrionalis.* Neck beneath with a ferruginous shield-like spot. *Red-throated D.*

Inhabits the lakes of *Europe*, *Asia* and *America*, and is often seen at sea ; feeds on marine insects, crabs and fish, which if pressed by hunger it will seize from the fishermen's nets ; builds a nest of grass and moss near water, and lays 2 eggs, cinereous spotted with black ; flies about, and makes a clamorous noise before storms ; 2 feet 5 inches long.

Body above brown with minute white spots, beneath white ; bill black ; head and chin cinereous spotted with brown ; neck above with small white and brown lines ; legs dusky.

**Arcticus.* Head hoary ; neck beneath violet-black, with an interrupted white band. *Black-throated D.*

Inhabits northern parts of *Europe*, *Asia* and *America* ; 2 feet long ; is restless and noisy before storms.

Bill black ; body above black, beneath white ; sides of the neck white spotted with black ; shoulders and wing-coverts with white spots, the former square, the latter round ; quill-feathers dusky.

**Stellatus.* Beneath white ; hind-head and quill-feathers dusky ; throat pale ash ; back, flanks, rump and tail spotted with white. *Speckled D.*

Inhabits

Inhabits *Europe* and *America*: 27 inches long.

Bill horn-colour; legs brown; egg dusky, spotted with black.

• *Glacialis*. Head and neck violet-black; chin and upper part of the neck with a white interrupted band. *Northern D.*

Inhabits *Northern Seas*: 3½ feet long.

Body above, bill, legs and tail black; back with square, white spots disposed in rows; wing-coverts with white dots; egg brownish.

• *Borealis*. Above blackish, with numerous white stellate spots, beneath white; neck on the fore-part rufous.

Resembles *C. stellatus*. Killed near *Copenhagen*.

• *Immer*. ^{one} Body above blackish, waved with white, beneath white. *Imber D.*

Inhabits the *Arctic Ocean*; above 2 feet long.

Feathers of the back, wings and tail edged with white.

Male front and sides of the head and neck spotted with brown.

C. Feet 4-toed, lobed. Grebe.

• *Cristatus*. Head rufous; collar black; secondary quill-feathers white, (the adult bird). *Crested Gr.*

2. Throat with a long downy tuft each side, (2 year old bird).

3. Head smooth; wings with a white spot, (1 year old).

Inhabits *Northern Europe*: 23 inches long; makes a floating nest of grass and aquatic plants, and lays 4 whitish eggs.

Bill flesh-colour, brown at the tip; lores and irids red; body above brown, beneath white; head tumid; varies in colour by age.

• *Auritus*. Blackish-brown, beneath white; head black; ears crested, ferruginous. *Eared Gr.*

2. Less; head with a double crest; neck spotted with chestnut.

Inhabits the northern lakes of *Europe* and *Siberia*: 12 inches long; builds a floating nest of grass and reeds.

Bill and legs black; irids and lores red; primary quill-feathers dusky, secondary white.

• *Cornutus*. Head glossy-green; through the eyes a yellow tufted band. *Horned Gr.*

Inhabits *North America*: 12 inches long; neck and breast tawny.

2. Head

2. Head and upper part of the neck greenish-black; neck beneath chestnut; tuft reddish-orange.

*Minor. Chestnut; beneath, spot on the quill-feathers and lower part of the rump silvery-white; neck beneath grey-tawny. *Little Gr.*

2. Larger; above purple-brown; cheeks and sides of the neck reddish.

Inhabits *Europe* and *America*, 2) *Philippine Islands*; 10 inches long; feeds on fish, insects and aquatic plants.

Bill chestnut; irids hazel; belly varied with cinereous and red spots; legs dirty-green.

3. Upper part of the head and neck blackish-brown, beneath silvery; sides variegated with black, reddish and white.

Inhabits the *Delta* in *Egypt*. *Sonnini*. 2. 238.

Feathers of the body edged with reddish; lower part of the belly grey; upper wing-coverts and first and last quill-feathers blackish, rest of the quill-feathers white; bill blackish, the base of the lower mandible reddish; legs blackish-green.

Ludovicianus. Brown; sides of the neck and body ferruginous; beneath white with transverse blackish spots. *Louisian Gr.*

Inhabits *Louisiana*.

Head smooth; legs dusky; middle of the belly silvery white.

Thomensis. Brown, beneath white with grey spots; quill-feathers pale rufous; breast with a black spot. *Black-breasted Gr.*

Inhabits *St. Thomas's Island*; less than a hen.

Bill black, pale at the tip; irids and spot between the bill and eyes white; legs dusky.

**Rubricollis*. Subcrested, brown; chin, cheeks and region of the ears ashy; neck beneath and breast rusty-red; belly and secondary quill-feathers white. *Red-necked Gr.*

2. Head smooth, black; chin, ears and under the eyes whitish with black lines; body black.

Inhabits *Europe*; 18 inches long; very rare in *England*.

Bill black, the sides tawny at the base; irids tawny; legs dusky.

**Obscurus*. Head smooth; body dark brown; front, body beneath and tips of the secondary quill-feathers white. *Dusky Gr.*

Inhabits

Inhabits *Europe* and *America*; 11 inches long.

Bill black, red at the sides; irids and lores red; upper edge of the wings white; legs purple flesh-colour.

Cayanensis Dark-brown, beneath white; neck beneath rufous.

Cayenne Gr.

Inhabits *Cayenne*; 19 $\frac{1}{2}$ inches long.

Bill and legs dusky; lower mandible yellow at the base.

Caspicus. Head smooth, body above dark-brown, beneath silvery; bill lead-colour; chin and cheeks white; wing-coverts brown.

Caspian Gr.

Inhabits the *Caspian Sea*; probably a variety of *C. rubricollis*.

Dominicus. Head smooth; body beneath thickly spotted.

White-winged Gr.

Inhabits the *Antilly Islands* and *Surinam*; 8 inches long.

Bill black; body dusky, beneath silver-grey, with brown spots; quill feathers cinereous-white; legs brown.

**Hebridicus*. Head smooth; body blackish; chin black; throat ferruginous; belly cinereous mixed with silvery.

Black-chin Gr.

Inhabits *Tiree*, one of the *Hebrides*; larger than *C. minor*.

Podiceps. Brown; bill olive, dusky at the base, with a transverse black band in the middle (male).

Pied-bill Gr.

Inhabits *North America*; 14 inches long.

Irids white; chin black surrounded with white; body beneath silvery; breast waved with cinereous; secondary quill-feathers tipped with black.

Female without the band on the bill and the black neck.

41. LARUS. *Bill* straight, sharp-edged, a little hooked at the tip and without teeth; lower mandible gibbous below the point: *nostrils* linear, broader on the fore-part, and placed in the middle of the bill. *Gull.*

These inhabit northern countries, have a light body and long wings; tongue a little cleft; legs short, naked above the knees; hind-toe small; they feed on fish and carrion; are very voracious, and when terrified, cast up the undigested food they have lately swallowed; are spotted till the third year, which makes the discrimination of the species rather difficult.

A. *Nostrils without a cere.*

- **Tridactylus*. Back whitish-hoary; quill-feathers white; hind-toe unarmed. *Tarrock. Kittiwake.*

Inhabits *Europe, Asia and America*; 14 inches long.

Bill yellowish; *mouth* salmon within; *head, neck, belly and tail* snowy; *wings* hoary, the outer edge of the first and tips of the 4—5 next feathers white; *legs* dusky; *hind-toe* a mere wart.

2. Whitish; back hoary; tips of the tail-feathers, except the outer one black; feet 3-toed: *the younger bird.*

Bill and legs dusky; *head, neck and body* beneath white; spot on the *chin* and on the *ears* and semicircular mark on the *nape* black; *wings* varied black and white; *tail* white tipped with black.

3. Wings with an oblique black band; chin white.

- Minutus*. Snowy; head and beginning of the neck black; back and wings russet; bill brown-red; legs scarlet.

Little G.

Inhabits *Russia and Siberia*; size of a thrush. *Iris* blueish.

- Eburneus*. Entirely white; bill and legs lead-colour. *Ivory G.*

Inhabits *Greenland* and the *Icy Seas*; 16 inches long.

Bill paler at the tip; *wings* longer than the tail; the young birds are spotted with black.

**Canus*.

•*Canus*. White ; back hoary ; primary quill-feathers black at the ends, the fourth and fifth with a black spot at the the tip, the outer one black without. *Common G.*

2. Head spotted with brown ; neck brown above ; tail-feathers white with a black band : *the younger bird*.

Inhabits *Europe* and *America* : 17 inches long.

Bill yellow ; irids hazel ; legs greenish-white.

•*Martinus*. White ; back black. *Black-backed G.*

2. White ; back and wings hoary ; primary quill-feathers black towards the tip : *the aged bird*.

3. White ; back cinereous ; tail tip with black ; bill blackish ; quill-feathers black : *young bird*.

Inhabits *Europe* and *America* ; 29 inches long ; feeds on fish and young birds ; eggs blackish-grey with dark purple spots.

Bill yellow, lower mandible with a red spot near the tip and black in the middle ; irids yellow ; lower part of the back white ; quill-feathers black tip with white ; legs flesh-colour.

Ichthy-
accus. Snowy ; head and as far as the middle of the neck black ; eyelids white. *Great G.*

Inhabits the *Caspian Sea* ; size of the barnacle.

Bill scarlet, yellow at the base and tip, with a brown spot near the tip ; mouth red within ; irids brown ; legs reddish-brown.

•*Fuscus*. White ; back brown ; legs yellow. *Herring G.*

Inhabits *Europe*, *North America* and *Asia* ; migrates in winter to *Iceland* ; 23 inches long ; feeds on fish, particularly herrings, the shoals of which fishermen are directed to by these birds hovering over and following them ; eggs 3, whitish spotted with black.

Bill yellow ; irids straw-colour ; 5 first quill-feathers above black.

Glaucus. White ; back and wings hoary ; quill-feathers tip with white ; bill yellow, saffron at the angle. *Glaucous G.*

Inhabits *Europe* and *Sweden* ; larger than the last ; is very voracious, and preys on smaller birds, fish and carrion.

Bill much hooked at the tip, the lower mandible shorter ; eggs greenish, lengthened at the little end, and marked with 6—8 spots.

Atrocilla.

Atricilla. Whitish ; head blackish ; bill red ; legs black.
Black-headed G.
 Inhabits *America* and *Europe* ; 18 inches long ; flies about the shores in flocks, with a continual clamour ; builds in pine trees.

Atricilloides. Reddish-white ; head, orbits and neck black ; back and wings cinereous ; legs scarlet.
 Inhabits the salt lakes of *Siberia* : less than the last.

**Ridibundus.* Whitish ; head blackish ; bill and legs pale red.
Laughing G.
 2. White ; back hoary ; a brown spot behind the ears.
 3. Whitish ; head brown with white spots ; back hoary ; 10 middle tail-feathers with a black band.
 Inhabits *Europe* and *America* ; 15 inches long ; makes a laughing kind of noise ; eggs 3, greenish-brown spotted with tawny.
Eyelids red ; *irids* hazel ; *head* and *chin* dusky-brown, in the full-grown bird black ; first 10 *quill-feathers* white, edged and tipped with black, the rest cinereous tipped with white ; *claws* black.

B. *Nostrils covered with a cere.*

**Parasiticus.* Two middle tail-feathers very long.
Arctic G.
 Inhabits *Europe*, *Asia* and *America* ; 21 inches long ; is very rapacious, and pursues the lesser gulls till they discharge what they have lately eaten, which it dextrously catches and devours before it reaches the water ; eggs cinereous, spotted with black.
Bill and *legs* dusky ; *body* above black, beneath, *temples* and *front* white ; *breast* with a dusky band.
Female brown beneath.

**Crepidarius.* Varied with dirty-white and brown, beneath paler ; 2 middle tail-feathers a little longer.
Black-toed G.
 Inhabits *Europe* and *America* : 16 inches long.
Bill black ; *breast* and *belly* white with numerous dusky and yellowish lines ; *flanks* and *vent* transversely black and white ; *wing-coverts* and *tail* black, edged with white or brownish ; *legs* blueish ; *toes* and *connecting membrane* black.

2. Varied with grey and white, beneath white; primary quill and tail-feathers blackish terminated by white, the side ones of the latter within for the greatest part white.

Length $15\frac{1}{2}$ inches; *bill* orange tip with black; *irids* whitish; *legs* orange.

**Cataractes*. Greyish; quill and tail-feathers white at the base; tail subequal. *Skua G.*

Inhabits *Europe, Asia* and *America*; 2 feet long; is very voracious and fierce, especially in breeding-time; feeds on fish, and all the lesser water-fowl; frights the lesser birds of its own tribe till they mute or vomit up what they have eaten, and then devours it.

Bill dusky, much hooked, upper mandible covered half way with a black cere; *body* brown, beneath rusty-cinereous; *legs* blackish, rough, warty; *claws* hooked, black; *hind-toe* short, with a sharp, hooked claw.

Kecksk. Brown; wing-coverts variegated with white; tail black, spotted and tip with white. *Esquimaux G.*

Inhabits *America*, as far as *Hudson's Bay*; 22 inches long.

Bill and *legs* black; *toes* and membrane half black, half white.

42. STERNA. *Bill* subulate, straightish, pointed, a little compressed, without teeth: *nostrils* linear: *tongue* pointed: *wings* very long: *tail* (mostly) forked. *Tern.*

Caspia. Body above plumbeous-ash, beneath and neck white; bill scarlet; frontlet and legs black. *Caspian T.*

Inhabits the *Caspian Sea*; $22\frac{1}{2}$ inches long; frequents sea-shores and banks; feeds on small fish and sea insects, hovering over the water and suddenly darting into it for its prey.

Bill red; *irids* dusky; *tail* short, forked; *quill-feathers* tip with black; *legs* reddish-brown.

2. Crown black spotted with white; tail-feathers with brown bars.

Inhabits *Bombay*; 21 inches long. *Bill* red; *legs* black.

3. Crown.

3. Crown black ; hind-head subcrested ; outer tail-feathers white from the middle to the tip ; bill yellowish ; legs black.

Inhabits *China* and *Sandwich Islands*.

4. Bill white ; frontlet varied black and white ; ears black ; back and wings cinereous ; quill and tail-feathers tipped with black.

Cayanensis Cinereous, the feathers edged with reddish, beneath white ; hind-head black. *Cayenne T.*

Inhabits *Cayenne* ; 16 inches long.

Surinamensis. Bill, head, neck and breast black ; back, wings and tail cinereous ; belly whitish ; legs red. *Surinam T.*

Inhabits *Surinam* ; about 15 inches long.

Fuliginosa Black ; beneath, cheeks, front and shafts of the quill and tail-feathers white. *Sooty T.*

Inhabits the *Atlantic* and *Antarctic Seas* ; 16 inches long.

Bill and legs black ; eggs yellowish, with brown and violet spots ; outer tail-feathers white, except at the tip.

Africana. White ; bill and legs black ; crown, wings and tip of the tail spotted. *African T.*

Inhabits *Africa* ; size of the last.

Crown spotted with black, wings with brown, tail with white ; quill-feathers blueish-ash.

Stolida. Body black ; front whitish ; eyebrows black. *Noddy.*

Inhabits chiefly within the *Tropics* ; 15 inches long.

Bill and legs black ; hind-head cinereous.

Philippina Claret-grey ; cap white ; band through the eyes, wings, tail, bill and legs black. *Philippine T.*

Inhabits the *Philippine Islands* ; twice as large as a swallow.

Simplex. Above plumbeous, beneath, crown, greater and middle wing-coverts white ; band behind the ears and quill-feathers black. *Simple T.*

2. Bill and legs black.

Inhabits *Cayenne* ; 15 inches long.

Bill and legs red ; some of the wing-coverts edged with brown.

3 A 2

Nilotica.

Nilotica. Cinereous, beneath white; head and neck with blackish spots; orbits black, dotted with white.

Egyptian T.

Inhabits *Egypt*; size of a dove.

Bill black; legs flesh-colour.

•*Cantiaca*. White; back and wings hoary; cap black; front with white spots; quill-feathers blackish with a white shaft.

Sandwich T.

Inhabits the *Kentish Coast*; 18 inches long.

Bill black, yellowish at the tip; legs black; wings longer than the tail; egg olive-brown with crowded purplish spots.

2. Tail hardly forked; body variegated; ears with a black spot.

3. Above black varied with paler colours, beneath white; tail forked; bill and legs black.

Inhabits *Finland*.

•*Hirundo*. Two outer tail-feathers half black, half white.

Greater T.

2. Legs black; outer tail-feathers entirely white.

Inhabits *Europe, Asia and America*: 12 inches long; breeds among small tufts of rushes, and lays 3—4 dull olive eggs spotted with black; is very clamorous.

Bill and legs crimson, the former tipped with black; crown and area of the eyes black; rest of the head, neck, tail and body beneath white; back and wings cinereous; outer tail-feathers black on the outer edge.

Panayensis Beneath white; crown spotted with black; wings and tail brown, beneath paler.

Panayan T.

Inhabits *Panay*; size of the last. Bill and legs black.

Cinerea. Cinereous; head and chin black; lower tail-coverts and upper edge of the wings white.

Cinereous T.

Inhabits *Italy*; 13 inches long.

Bill black; legs red; chin sometimes spotted with white.

Alba. Entirely white; bill and legs black.

White T.

Inhabits the *Cape of Good Hope*; size of *St. nigra*.

Obscura. Above brown, beneath white; head black; wings variegated with brown and cinereous.

Brown T.

This is probably the young bird of a former species.

Nigra.

- Nigra.* Body hoary ; head and bill black ; legs red.
Black-headed T.
 Inhabits *Europe* : $2\frac{1}{2}$ inches long.
- Australis.* Cinereous, beneath grey ; front yellowish-white ; quill-feathers white.
Southern T.
 Inhabits *Nativity Islands* ; $7\frac{1}{2}$ —9 inches long.
 Bill black ; legs blackish, the connecting membrane tawny.
- Sinensis.* White ; back, wings and tail cinereous ; crown with a black band reaching as far as the nape. *Chinese T.*
 Inhabits *China* ; 8 inches long. Bill black ; legs tawny.
- Macropus.* Head and neck black ; back blackish-hoary ; wings, cinereous ; front, body beneath and tail white. *Hooded T.*
 Inhabits *Russia* and *Siberia* ; $8\frac{1}{2}$ inches long.
 Bill yellow, red at the base ; legs saffron.
- *Minuta.* Body white ; back hoary ; front and eyebrows white.
Lesser T.
 Inhabits *Europe* and *America* ; $8\frac{1}{2}$ inches long.
 Bill yellow tip with black ; irids brown ; cap black ; through the eyes a black band ; legs yellow ; egg yellowish-brown with purple spots.
- Striata.* White ; hind-head and nape black ; body above and wings with transverse black streaks. *Striated T.*
 Inhabits *New Zealand*. Bill black ; legs lead-colour.
- Vittata.* Cinereous ; crown black surrounded with white ; rump, vent and tail white ; bill red ; legs tawny.
Wreathed T.
2. Tail cinereous with white shafts.
 Inhabits *Nativity Island* ; 15 inches long.
- Spadicea.* Reddish-brown ; vent white ; bill and claws black ; tail and quill-feathers dusky, the secondaries tip with white.
Brown T.
 Inhabits *Cayenne* ; 15 inches long.
 Body beneath and legs pale brown ; feathers of the back and wing-coverts tip with reddish-white ; scapulars white ; upper edge of the wings and lower coverts white.

Fusca.

Fusca. Body blackish without spots; legs red; bill brown.

Dusky T.

Inhabits *St. Domingo*; 11 inches long.

Bill tipped with black; *head, chin, upper part of the neck and rump* black-brown; *lower wing-coverts* hoary; the 2 *quill-feathers* next the body and 2 middle *tail-feathers* rufous at the tips; *legs* red.

• *Filipes*. Black; back cinereous; belly white; legs reddish.

Black T.

Inhabits *Europe* and *America*; 10 inches long.

Bill black; *male* with a white spot on the chin; *wings and tail* cinereous; *vent and lower tail-coverts* white; legs brownish-green with purplish spots.

43. RYNCHOPS. *Bill* straight, the upper mandible much shorter, lower truncate at the tip.

Nigra. Blackish, beneath white; bill red at the base.

Black Skimmer.

2. Tawny; bill black.

Inhabits *America* and *Asia*; 20 inches long; is perpetually flying about and skimming over water, out of which it scoops small fish with its lower mandible; in stormy seasons frequents shores in search of shell-fish.

Bill black, the lower mandible grooved; *front and chin* white; *wings* with a transverse white band; 2 middle *tail-feathers* black, the next edged with white; *legs* red.

ORDER IV. GRALLÆ.

Bill subcylindric, a little obtuse: tongue entire, fleshy: legs naked above the knees.

44. PHŒNICOPTEROS. *Bill naked, toothed, bent as if broken: nostrils linear: feet 4-toed, palmate, the membranes semicircular on the fore-part; hind-toe not connected. Flamingo.*

These birds combine the characters of the Anseres and Grallæ; have long legs and neck; bill large, the upper mandible carinate above, and toothed on the edge, lower compressed, transversely furrowed, and nostrils covered with a thin membrane.

Ruber.

Quill-feathers black.

Red Fl.

Inhabits *Africa* and *South America*; from the tip of the bill to the end of the tail 4 feet 4 inches long, and to the end of the legs 6 feet; feeds on aquatic insects and fish; perpetually twists its neck about when eating, so that the upper mandible touches the ground; makes its nest on hillocks in shallow water, on which it sits with the legs hanging down like a man sitting upon a stool; lays 2 white eggs; very impatient of cold; flesh good, especially the tongue; it changes its colour with its age, being the first year white-ash, the second rosy, the third full scarlet; tongue covered with about 12 papillæ, which are hooked backwards, and cartilaginous at the tip.

Chilensis.

Quill-feathers white.

Chili Fl.

Inhabits *Chili*; 5 feet long from the bill to the claws. Bill covered with a reddish skin; head subcrested.

45. PLATALEA.

45. PLATALEA. *Bill* long, thin; the tip dilated, orbicular, flat: *nostrils* small, at the base of the bill: *tongue* short, pointed: *feet* 4-toed, semipalmate.
Spoon-bill.

• *Leucorodia*. Body white; chin black; hind-head subcrested.

White Sp.

2. Wings varied with black and white; legs yellowish.
3. Body all white; legs flesh-colour.

Inhabits *Europe* and *Asia*; 2 feet 8 inches long; feeds on fish, frogs, snakes and grass; builds in high trees; lays 3—4 white eggs, powdered with reddish spots; flesh resembles that of a goose, especially when young.

Bill black, brown or spotted; *tongue* heart-shaped; *irids* grey; *lores*, *orbits* and naked dilatable *chin* black; *quill-feathers* sometimes tipped with black; *legs* black.

Ajaia. Body rosy; tail-coverts scarlet.

Roseate Sp.

2. Blood-red; neck white; collar black; tail-feathers scarlet.

Inhabits *South America*; 2 feet 3 inches long.

Bill cinereous-white, with a furrow parallel with the edge; *face* and *chin* naked, whitish; *legs* grey, 2) is the full-grown bird.

Pygmaea. Body above brown, beneath white.

Dwarf Sp.

Inhabits *Guiana* and *Surinam*: size of a sparrow.

Bill black, longer than the head, nearly rhomboid at the tip, the angles and tip of the upper mandible white; shafts of the *quill-feathers* white; *tail* short, rounded; *feet* cleft.

46. PALAMEDEA.

46. PALAMEDEA. *Bill* conic, the upper mandible hooked: *nostrils* oval: *feet* 4-toed, cleft, a very small membrane connecting the toes at the root.

Screamer.

Cornuta. Wings with 2 spines at the bend; front horned.

Horned Sc.

Inhabits the fenny and maritime parts of *South America*; 3 feet 4 inches long; they are always found in pairs, and feed on herbs, seeds and reptiles; makes a nest of mud, shaped like an oven, and lays 2 eggs; when alarmed rises from the ground with a loud and continued screaming; the flesh when young is sometimes eaten.

Bill and *legs* black; *irids* golden; *body* above blackish, beneath white; *wings* reddish beneath; *spines* strong, sharp, horny, triangular, yellow; *horn* on the front recurved, round, whitish, 3 inches long; *hind-toe* straight.

Cristata. Wings unarmed; front crested.

Crested Sc.

Inhabits *Brazil*; size of a heron.

Bill and *legs* yellowish; *irids* golden; *crest* black varied with cinereous, erect; *body* grey mixed with rufous and brown; *hind-toe* placed so high as not to touch the ground in walking.

47. MYCTERIA. *Bill* a little bending upwards, sharp-pointed, upper mandible triangular: *front* bald: *nostrils* linear: *tongue* small or o: *feet* 4-toed, cleft.

Jabiru.

Americana White; quill and tail-feathers purplish-black.

American J.

Inhabits the marshes of *South America*; nearly 6 feet long; is migratory and gregarious; feeds on fish which it devours in large quantities; builds in trees hanging over the water, and lays 2 eggs.

Vol. I. — 3 B

Bill

Bill long, stout, black; *head* and *neck* bald, two-thirds of the neck blackish, the rest red; *hind-head* ashy; *legs* long, stout, blackish.

Asiatica. White; band over the eyes, lower part of the back, quill and tail-feathers black. *Indian* ♀.

Inhabits *India*; feeds on shell-fish.

Bill blackish, upper mandible gibbous at the base, lower tumid beneath; *legs* flesh-colour.

Nova Hol- Body above purplish-green, beneath, neck and shoulders
landia. white. *New Holland* ♀.

Inhabits *New Holland*. *Lev. Mus.*

Head purplish, spotted with white; *neck* feathered; *irids* yellow; first *quill-feathers* white; *tail* black and white.

48. **CANCROMA.** *Bill* gibbous, shaped like an inverted boat: *nostrils* small, placed in a furrow: *tongue* small: *toes* divided.

Cochlearia. Crested; ash-colour; belly rufous; crown and lunule on the neck black. *Crested Boat-bill*.

Inhabits *South America*; 22 inches long; perches on trees which hang over the water, and darts down on the fish as they swim underneath; feeds likewise on crabs.

Bill brown; *lores* naked, blackish; *crest* long, pendulous, pointed; *legs* yellowish-brown; *toes* connected at the base.

2. Body spotted with brown.

Cancro- Crested; rufous-brown; belly whitish; crown black.

phaga.

White-bellied Boat-bill.

In its habitation, manners and food resembles the last, of which it may perhaps be only the female.

49. SCOPUS. *Bill* long, thick, compressed, a little hooked: *nostrils* linear, oblique: *feet* 4-toed, cleft.

Umbretta. Sc.

Tufted Umbre.

Inhabits *Africa*; 20 inches long.

Bill brown, with a longitudinal furrow each side, in which are placed the *nostrils*, lower mandible narrower towards the end, and a little truncate; *crest* thick, tufted, lax; *body* brown; *tail* obscurely barred; *legs* longish, brown; *toes* connected at the base.

Female not crested.

50. ARDEA. *Bill* straight, pointed, long, subcompressed, with a furrow from the *nostrils* towards the tip: *nostrils* linear: *tongue* sharp: *feet* 4-toed, cleft; *toes* connected at the base.

A. Crested: *bill* hardly longer than the head.

Pavonia. Crest bristly, erect; *temples* with 2 naked wattles.

Crowned Heron.

Inhabits *Africa* and *Guinea*; 2 feet 9 inches long; is easily tamed, and feeds on worms and vegetables; runs well, and continues long on the wing; sleeps on one leg; flesh tough.

Bill brownish; *irids* grey; *crown* covered with short, silky feathers; *crest* circular, yellowish tip with black; *temples* and *wattles* red; *body* blueish-ash; *wing-coverts* white, the greater ones reddish, those next the body blackish; *tail* and greater *quill-feathers* black, the secondary bay; *legs* dusky.

Virgo.

Behind each eye a tuft of long, white, pendent feathers.

Numidian Crane.

Inhabits *Africa* and *Asia*: 3 feet 3 inches long.

Bill yellowish, the base greenish, the tip red; *irids* red; *head* and tips of the primary *quill-feathers* black; feathers of the breast

breast long, pendulous ; *crest* over the eyes turned back and pendulous ; *body* blueish-ash ; *crown* cinereous ; *head, neck, throat, breast* and *legs* black.

B. Cranes, *Head bald.*

Canadensis Fore-head naked, papillous ; *body* cinereous ; *wings* testaceous on the outside. *Brown Cr.*

2. Cinereous ; greater quill-feathers black.

Inhabits *North America* ; 3 feet 3 inches long ; feeds on corn and various insects, and migrates ; flesh good.

Bill dusky, the lower mandible tipped with pale flesh-colour ; *head* on the naked part red ; *back, wings* and *scapulars* reddish ; greater quill-feathers dark brown ; *legs* black.

• *Grus.* Hind-head naked papillous ; cap and quill-feathers black ; *body* cinereous ; innermost tail-feathers jagged.

Common Cr.

2. White ; lower part of the neck and quill-feathers black.

Inhabits *Europe* and *Asia*, 2) *Japan* ; migrates in autumn towards the south ; above 5 feet long ; feeds on all sorts of vermin and green corn ; flies in vast flocks, at a great height, and rests on one leg.

Bill greenish-black ; *front* covered with black down ; *hind-head* red, with a few scattered hairs and beneath a cinereous area ; *temples* and upper neck white ; *legs* black.

Americana Crown, nape and naked temples papillous ; front, nape and primary quill-feathers black ; *body* white.

Hooping Cr.

Inhabits *North America* ; 4 feet 6 inches long ; makes a great clamour, and feeds on worms and marsh insects.

Bill yellowish, serrate at the tip ; *crown* red, covered with black hair ; *head* beneath, as far as the lower jaw red ; *legs* black.

Antigone. Naked head and papillous collar red ; *body* cinereous ; primary quill-feathers black.

2. Body blueish-ash ; bill and tail black ; legs blackish.

Inhabits *India* ; 5 feet high.

Bill greenish-yellow with a dusky tip ; *crown* and spot behind the eyes white ; *legs* red ; *claws* black.

Gigantea.

Gigantica. White; temples and front naked, red, wrinkled; 10 first quill-feathers shining black; bill and legs red.

Siberian Cr.

Inhabits the vast marshy flats of *Siberia*; feeds on reptiles, worms and small fish; stands $4\frac{1}{2}$ feet high.

Bill serrate; irids pale white; tail with 12 subequal feathers; the year old bird is tawnyish, beneath white; face and legs greenish-brown.

C. Storks. Orbits naked.

Ciconia. White; orbits and quill-feathers black; bill, legs and skin red.

White S.

Inhabits *Europe, Asia* and *Africa*; 3 feet 3 inches long; feeds on fish and reptiles, and is in some countries held sacred for its use in destroying serpents; sleeps on one leg; in autumn migrates in vast and orderly flocks to the fens of *Egypt* and *Barbary*; greater wing-coverts black.

Maguari. White; orbits and legs red; bill cinereous; upper tail and greater wing-coverts, quill-feathers and scapulars black.

American S.

Inhabits the warmer parts of *America*; $3\frac{1}{2}$ feet long.

Bill 9 inches long, the base yellowish-green; irids silvery; feathers of the throat long, lax; claws broad, flat.

Nigra. Brown; breast and belly white.

Black S.

Inhabits *Europe* and *Asia*: 2 feet 9 inches long; is timid, and retires into thick woods and inaccessible fens; feeds on fish and reptiles.

Bill greenish-grey tipped with whitish; feathers of the hind-head and under the neck long; neck and sides of the head shining azure; legs red.

D. Herons. Middle claw serrate inwardly.

Dubia. Glaucous, beneath dirty-white; bill a little triangular.

Gigantic H.

Inhabits *India* and *Africa*: 7 feet high when standing; is docile, easily tamed and very voracious; feeds on fish, birds and reptiles.

Bill of many colours, 16 inches round at the base; gape of the mouth very large; head and neck nakedish; in the middle of the neck is a long membranous conic bag, thinly covered with down; quill-feathers brown; legs black.

Torquata,

Terquata. Hind-head black, crested; back brown; neck and belly dirty-white; breast black with yellowish lunules.

Wreathed H.

Inhabits South America.

Niticorax Crest on the hind-head white, horizontal, of 3 feathers; back black; belly yellowish, (male). *Night H.*

2. Head smooth, brown; belly brownish, beneath white; first quill-feathers with a white spot at the tip, (female).

Inhabits Europe, Asia and America: 20 inches long, builds in trees or among rocks; feeds on fish; migrates and frequents the mouths of rivers and stagnant marshes.

Bill black, yellowish at the base; lores and orbits green.

Male; a white band on the front; head as far as the middle of the neck black; quill and tail-feathers cinereous; legs yellowish-green.

Female; crown brown; crest 0; body grey-brown; neck beneath with a rusty line; 18 first quill-feathers with a white spot at the tip; tail-feathers edged with white; lores white; legs brown.

Jamaicensis. Brown, beneath white; head subcrested; breast and belly with brownish streaks. *Jamaica night H.*

Inhabits the woods of Jamaica; 1 foot 11 inches long.

Bill dusky; lores and orbits greenish; chin and vent white; primary quill-feathers tipped with black; legs brown.

Caledonica Ferruginous, beneath white; crest on the hind-head of 3 feathers; frontlet black; eyebrows white.

Caledonian night H.

Inhabits New South Wales: 22 inches long.

Bill black; area of the eyes green; legs yellow.

Obscura. Crest on the hind-head of one feather; body above greenish, beneath chestnut, longitudinally striped with white and ferruginous; quill-feathers with a white spot at the tip. *Dusky H.*

Inhabits Slavonia; size of *A. stellaris*.

Bill recurved, greenish-black; feathers of the crest white; front, crown and nape dusky-chestnut; back and wing-coverts dusky-chestnut and gold-green; legs short, greenish.

Cayanensis Cinereous; head black, crown white; crest unequal, of 6 feathers, half white, half black. *Cayenne night H.*

Inhabits

Inhabits *Cayenne* : 21 inches long.

Bill black ; *lores* pale green ; a white line from the *nostrils* beneath the eyes to the hind-head ; *body* blueish-ash ; *quill-feathers* black ; *legs* yellowish.

Purpurea. Hind-head black ; crest pendent, of 2 long feathers ; body olive, beneath purplish. *Crested purple H.*

Inhabits *Asia* : 2 feet 10 inches long.

Bill brown tip with dusky, beneath yellowish ; *crest* black ; *orbits* naked yellowish ; from the angle of the *mouth* to the hind-head a black streak ; *chin* white ; upper half of the *neck* rufous, with 8 longitudinal black lines, the rest olive behind, rufous at the sides, and reddish on the fore-part, the feathers long, narrow, each with a black spot ; a black band from the middle of the *breast* to the *vent* ; lower *tail-coverts* white, mixed with rufous and tip with black ; angles of the *wings* rufous ; *quill-feathers* dusky ; *legs* greenish.

**Caspica*. Crested ; body cinereous ; neck, breast and belly ferruginous ; chin white ; neck with 3 black lines.

African H.

Inhabits *Africa*, *Asia*, and is very rarely found in *England* : size of *A. cinerea*.

Bill and *legs* yellow ; *crest* of 3 long feathers ; feathers of the *breast* and *rump* mixed with ferruginous ; from the *nape* to the *back* a broad, black line, and another on each of the *sides*.

**Major*. Hind-head with a long, pendent crest ; body cinereous ; line on the neck beneath and pectoral bar black, (male). *Common H.*

2. Hind-head smooth, black ; back blueish, beneath whitish ; breast with oblong, black spots, (female).

Inhabits almost every where in fenny places ; is very voracious, and preys on fish and reptiles, and even vegetables ; is a great depredator on fish-ponds ; flies very high with its head between its shoulders and its legs pendulous ; builds frequently in trees, and lays 4—5 greenish-blue eggs ; 3 feet 3 inches long.

Bill dusky, the base beneath yellowish ; area of the *eyes* naked, greenish ; *irids* yellow ; *temples* black ; *front*, *crown* and *neck* above white ; *spurious wings* and greater *quill-feathers* black ;

black; *scapulars* and feathers of the *throat* long, lax, narrow; *body* beneath white; *legs* dirty-green.
Female; crest hardly any; *head* grey; feathers above the *breast* short.

**Garzetta*. Hind-head crested; body white; bill black; lores and legs greenish. *Little Egret.*

Inhabits marshy places in temperate regions; a foot long.
Irids yellowish; crest consisting of some short and 2 long feathers; *face* naked, green; *claws* black.

Leucogaster. Blueish-black; beneath white; crest on the hind-head of 2 feathers; bill, naked face and legs yellow. *Demi-egret.*

Inhabits *Cayenne*; hardly 2 feet long.
 Lower part of the *back* with some long, pendulous, rufous feathers.

Rufescens. Blackish-grey; lores and orbits green; feathers of the head and neck, and longer narrow ones of the back rusty-rufous. *Reddish Egret.*

Inhabits *Louisiana*; near 2 feet long.
Bill yellowish, dusky at the tip; *legs* black.

Egretta. Subcrested, white; legs black; feathers of the back and breast lax, narrow and very long. *Great Egret.*

Inhabits *South America*: about 2 feet long; is solitary, shy, lies hid among the tall reeds, and feeds by night.
 Crest hardly visible; *bill* black or dirty-yellow, dusky on the back and at the tip.

Agami. Black-blue, beneath rufous; hind-head crested; orbits and chin white. *Agami H.*

Inhabits *Cayenne*; 31 inches long.
Bill dusky; *cap* and 6-feathered long crest blue; *nape* and jagged *scapulars* pale blue; lower part of the *neck* and *back* with long pendulous feathers.

Cocoi. Hind-head, pendent crest and back cinereous; neck beneath spotted with black; sides of the head black.

Cocoi H.
 Inhabits

Inhabits *Brazil* and *Cayenne*; above 3 feet long.

Bill greenish-yellow; irids golden; body cinereous; crest $5\frac{1}{2}$ inches long; cheeks, chin and crown white; neck and back with very long, pendulous feathers:

Johanna. Above cinereous, beneath white; pendent crest and quill-feathers black; feathers of the throat long, lax and spotted with black. *Johanna H.*

Bill yellowish; face naked, yellowish-green; legs brown.

Fusca. Crest blackish; body blackish-brown, beneath white; breast with long brown spots. *Brown H.*

Inhabits *Cayenne*; $2\frac{1}{2}$ feet long. Bill brown; legs yellow.

Hoasli. Crested head and body above black, beneath white; face naked, yellowish; front between the eyes white; wings and tail cinereous. *Dry H.*

Inhabits the lakes of *New Spain*; 3 feet 3 inches long.

Bill black, yellow at the sides; irids and legs yellow.

Female above brown mixed with whitish, beneath white tinged with brown.

Hohou. Head purple, crested; body cinereous; angles of the wings white; front varied black and white; wing-coverts blue and cinereous. *Houhou H.*

Inhabits the fens of *Mexico*: a rare bird.

Bill black; legs variegated with brown, black and yellowish; crest consists of 7 purple feathers.

Indica. Varied with brown and green; secondary quill-feathers green; tail black; wing-coverts, primary quill-feathers and body beneath white. *Lohajung H.*

Inhabits *India*; 3 feet long.

Bill black; legs flesh-colour; crown, neck and hind-part of the back with green spots; sometimes the back is white.

Flavicollis. Crest on the hind-head and body black; neck yellowish at the sides, the fore-part chestnut, the feathers edged with black and white. *Yellow-necked H.*

Inhabits *India*; 2 feet long.

Nova Hol-landia. Subcrested; lead-cinereous, beneath rusty-rufous; face beyond the eyes, chin and throat white.

White-fronted H.

Inhabits

Inhabits *New Holland* ; 28 inches long.

Bill black, the base underneath yellowish ; *lores* and *orbits* naked, greenish ; *legs* yellow-brown ; feathers of the *crown* long, black ; *cheeks*, *chin*, *front* and fore-part of the neck as far as the middle, white ; feathers of the *chest* long.

Nerodias. Hind-head crested ; body brown ; thighs rufous ; breast with oblong black spots. *Great H.*

Inhabits the lakes and rivers of *Virginia* ; feeds on lizards, frogs and fish ; above 5 feet long.

Bill brown ; *face* yellowish ; *crest* and *quill-feathers* black ; neck and *breast* rufous.

Ludovicia. Head and neck rufous ; front white, spotted with rufous ; crown crested ; wing-coverts and tail green ; back cinereous, with a purple tinge ; breast rufous-brown. *Louisiane H.*

Inhabits *Louisiana* ; 16 inches long.

Bill dusky ; *lores* yellowish ; *quill-feathers* blackish, many of them tipped with white ; *wing-coverts* edged with tawny ; *legs* yellow.

Violacea. Hind-head pale yellow ; crest white ; body streaked black and white, beneath blueish ; legs pale yellow. *Yellow-crowned H.*

Inhabits *Carolina* : 15½ inches long.

Bill black ; *irids* red ; *face* naked, green ; *crest* 4—6 inches long ; *head* violet ; from the angle of the mouth each side to the hind-head a white streak ; *quill-feathers* blueish-brown ; tail blue.

Carulea. Hind-head crested ; body blue. *Blue H.*

Inhabits *America* : 18 inches long.

Bill and *lores* blue ; *legs* green.

Female ; head and neck dusky-purple ; chin and middle of the throat white ; back lead-colour.

2. Subcrested ; blue-green ; chin and throat white.

Inhabits *New Zealand* : 18 inches long.

Bill and *legs* yellow.

3. Varied with brown yellow and cinereous ; above steel-black, beneath white ; wings and tail greenish.

Inhabits *Brazil* : 16 inches long.

Bill beneath white ; *lores* and *legs* yellow ; *quill-feathers* with a white spot at the tip.

Caruleseus.

- Carule-scens.* Crested ; body dusky-blue ; head and neck rufous-brown ; hind-head with 2 long feathers. *Blueish H.*
 Inhabits Cayenne : 19 inches long.
 Bill pale yellow ; lores red ; legs brown.
- Rubiginosa.* Ferruginous, beneath whitish striate with black ; head sub-crested ; chin white ; back with a few black spots. *Rusty-crowned H.*
 Inhabits North America : size of *A. stellaris*.
 Bill slender ; irids and legs yellow ; front and quill-feathers dusky ; throat with 4 black streaks ; feathers of the breast long, loose ; from the breast to the upper part of the neck a black line ; tail short, lead-colour.
- Hudsonia.* Crested crown black ; body brownish, beneath whitish ; neck beneath spotted with reddish-black. *Red-shouldered H.*
 Inhabits North America : perhaps the female of the last.
 Bill above black, beneath tawny ; face greenish-yellow ; temples, lower part of the head and breast white, the latter with oblong black spots ; neck beneath brown, with deeper bars ; legs dusky.
- Comata.* Ferruginous, beneath white ; hind-head with a long, white, pendent crest, edged with black. *Squacco H.*
 Inhabits Europe and Asia : size of *A. minuta*.
 Bill livid red, tip with brown ; lores greenish ; irids yellow ; rump, wings and tail white ; legs greenish-yellow.
- *2. White ; head smooth, the upper part, crown, breast and back reddish.
 Inhabits Coromandel : has been once shot in England. • Linn. *Transf.* 3. 335.
3. Front and neck whitish, streaked with testaceous and black ; wings testaceous ; rump, belly and thighs white.
 Inhabits Pofegan.
 Bill white, tip with black ; head smooth ; 2 middle tail-feathers pale, testaceous at the tip.
- Erythrocephala.* Hind-head with a red pendent crest ; body white. *Red-crested H.*
 Inhabits Chili.

- Thula.** Hind-head crested and with the rest of the body white.
Inhabits *Chili*.
- Cyanocephala.** Crown crested and with the back blue; wings black edged with white. *Blue-headed H.*
Inhabits *Chili*.
Bill black; belly yellow-green; tail green; legs yellow.
- Candidissima.** Snow-white; bill and legs blackish; eyes and toes yellow; crest very long, shading the hind-head, neck, breast and back. *Snowy H.*
Inhabits near *Carthagera* in *America*; less than *A. stellaris*.
- Castanea.** Chestnut, beneath white; face and eyebrows green; pouched chin and rump white; head crested. *Castaneus H.*
Inhabits near the *Tanais*: 22 inches long; builds in trees.
Bill livid at the base, brown at the tip; irids saffron; sides of the head yellowish; neck yellow-bay, beneath varied yellow and whitish; quill and tail-feathers snowy; wing-coverts ochre.
- Squajotta.** Bay; crest on the head black, the middle feathers white; scapulars long, narrow, white at the base.
Inhabits *Italy*: 18 inches long.
Bill yellow, tip with black; face naked, yellow; crest with 30 feathers; legs green.
- Galeata.** Hind-head subcrested; body milk-white; bill pale yellow; legs scarlet.
Inhabits *Chili*: 2 feet 7 inches high. Bill 4 inches long.
- Ferruginea.** Head subcrested; body blackish, the feathers ferruginous at the tips; beneath varied with ferruginous, whitish, brown and cinereous. *Ferruginous H.*
Inhabits *Europe* and *Asia*; 21 inches long; migrates; feeds on fish and insects, and builds on the top branches of trees.
Bill above brown, beneath reddish-green; face naked, green; irids saffron; chin pale ochre; quill-feathers black-brown tip with white; legs greenish.

Erythropus.

Erythrophus. Head crested; body chestnut-saffron, beneath deeper; bill blue; legs red. *Red-legged H*

2. Neck spotted at the sides; legs pale yellowish.

Inhabits *Italy*: size of *A. virescens*.

Bill tipped with black; head varied with yellow and black.

Striata. Hind-head subcrested; back hoary, streaked; neck beneath ferruginous; secondary quill-feathers tipped with white. *Striated H.*

Inhabits *Guiana* and *Surinam*; size of *A. cinerea*.

Crown black; quill-feathers brown.

Navia. Brown; hind-head black, subcrested; long quill-feathers blackish, tipped with white; shoulders streaked with white. *Spotted H.*

Inhabits *South America*. *Cim. Phys.* 70. tab. 36.

Bill and legs deep brown; behind each eye a small, oblong, black patch; cheeks and sides of the neck pale rusty; throat and fore-part of the neck white, thickly spotted with black; body beneath pale brown; thighs with minute, longitudinal, black spots; long quill-feathers with a white spot at the tip; tail black.

Virescens. Hind-head subcrested; back shining green; breast reddish; lores pale yellow; tail-feathers gold-green, (male). *Green H.*

2. Brown gold-green, beneath whitish; neck reddish, streaked with white; wing-coverts and quill-feathers spotted with white, (female).

3. Crested; cinereous; fore-part of the neck white, with rufous streaks; wing-coverts greenish, edged with rufous; crown and tail black.

4. Brown, beneath paler; wings dotted with white; quill and tail-feathers blueish-ash.

Inhabits *South America*; 18 inches long; sits on trees.

Bill greenish-brown, 3) black; legs yellowish; crown deep green.

Male; quill-feathers gold-green, secondary edged with rusty.

Female; crest hardly any; wing-coverts with triangular, rufous-white spots at the tip.

• *Stellaris.* Head smoothish; body above testaceous, with transverse spots, beneath paler, with oblong, brown spots.

Bittern.

2. Body

2. Body less; colour of the wings deeper.

Inhabits the temperate parts of *Europe* and *Asia*, 2) *America* :
3 feet 2 inches long; migrates northerly in summer; feeds
on fish and reptiles; about sun-set rises in the air to a vast
height in a spiral direction, making a prodigious noise :
builds among reeds; eggs 4—5, greenish-ash.

Bill brown, beneath greenish; *legs* and *lores* green.

Botaurus. Head smoothish, black; body above cinereous-brown, be-
neath rufous; lores and naked orbits yellow; throat
white, streaked with black and reddish.

Greater Bittern.

Inhabits *Italy*; 3 feet 9 inches long.

Bill yellowish; *irids* yellow; feathers of the *head* and *breast*
long, flowing; feathers of the *sides* of the *neck* streaked
with black.

Solomonien. Crown black; smooth head and neck ferruginous; body
fr. above blackish, beneath reddish. *Italian Bittern.*

Inhabits *Italy*; larger than the next.

Bill blackish, beneath corneous; *irids* yellow; *wing-coverts*
varied with ferruginous and white; greater *quill-feathers*
blackish, lesser ferruginous; *legs* brown.

Marigli. Rufous streaked with brown; head smooth; throat white;
quill-feathers brownish with dusky bars; tail whitish.

Swabian Bittern.

Inhabits the banks of the *Danube*; less than *A. stellaris*.

Face naked, yellow; *irids* whitish; *legs* yellowish.

Danubia. Brown, with black and reddish lines; head smooth; lores
fr. naked, yellow; throat and breast whitish.

Rayed Bittern.

Inhabits the banks of the *Danube*; size of the last.

Bill brown, beneath yellowish; *legs* and *claws* grey.

Undulata. Reddish-grey; cap black; body above with black waves,
beneath with angular streaks. *Zigzag Bittern.*

Inhabits *Cayenne*; 13 inches long.

Bill brown; *lores* blueish; *neck* tumid; *legs* yellow.

Brazilien. Head smooth; body blackish, dotted with yellow; quill
fr. and tail-feathers, bill and legs blackish.

Brazilian Bittern.

Inhabits

Inhabits *Brazil*; 2 feet 8 inches long.

Irids yellow; *head* and *neck* brown, with a few black spots; *throat* white, with black and brown longitudinal spots.

Tigrina. Head smooth; crown and tail black, with white bands; body black, spotted above with rufous, beneath with pale ochre; chin and vent white. *Tiger Bittern.*

Inhabits *South America*; 2½ feet long.

Bill greenish; *irids* yellowish; *chin* and sides of the *neck* reddish, with black spots; *tail* with 4 bands; *legs* green.

Lineata. Head smooth; bill and lores blue; wings and tail black; body above waved with rufous, yellowish and brown lines, beneath dirty-white. *Lineated Bittern.*

Inhabits *Cayenne*; 2½ feet long.

Head and *neck* rufous with numerous brown lines crossing each other; fore-part of the *neck* with a white line, each side edged with black spots; *legs* yellow.

Flava. Streaked; above brown, beneath white; head and neck reddish; tail-feathers with transverse white streaks.

Yellow Bittern.

Inhabits *Brazil*; 2 feet 3 inches long.

Bill near the tip serrate, brown, greenish at the base; *irids* golden; feathers of the *belly* edged with yellow; *tail* with white lines; *legs* dusky-grey.

Bononien- Black; collar white; legs and 2 spots on the yellow bill
sis. black. *Collared H.*

Inhabits about *Bononia*; size of a curlew.

**Alba.* Head smooth; body white; bill tawny; legs black. *Great white H.*

Inhabits *Europe*, *Asia* and *America*; 3 feet 6 inches long.

Bill 6 inches long; *irids* yellowish; *lores* green.

Pileata. Hind-head crested; body white; crown black. *Black-crested H.*

Inhabits *Guiana*; about the size of the last.

Bill brown; *legs* pale yellow; *lores* grey-green.

Nivea. Head smooth; bill and legs black; body snowy; feathers of the neck and back flowing. *Snowy H.*
Inhabits

Inhabits shores of the *Caspian Sea* : above 2 feet long.
Face yellowish-blue ; *toes* saffron.

Helias. Head smooth : body above black, waved with transverse, ferruginous lines : beneath whitish : quill and tail-feathers with ferruginous bars.

Inhabits *South America* : 16 inches long ; feeds on small fish and insects, and expands the tail like a peacock.

Bill blackish ; *tongue* very narrow, grooved ; *pupil* red ; *head* and beginning of the *neck* black with white streaks ; *rump* with transverse white lines ; 7 of the *tail-coverts* with a large white spot at the tip ; *tail* blackish, streaked with white and 2 ferruginous bands.

Sacra. Head smooth : body white : inner wing-coverts and tail-feathers with black lines : dorsal feathers jagged, white. *Sacred H.*

2. Crown white : body variegated white and black : dorsal feathers jagged, black : legs black.

Inhabits *Otaheite* : 2½ feet long ; is held sacred by the natives. Middle of the *crown* with a few black streaks ; *bill* brown ; *legs* yellow ; greater *quill-feathers* dusky at the tips.

Atra. Entirely black : face naked : head smooth. *Black H.*
 Inhabits *Silesia* : size of *A. major*. *Wings* blueish.

Purpurata Head smooth : crown and neck blackish-ash : body above purple-bay, beneath cinereous : face naked, yellowish. *Purple H.*

Inhabits the banks of the *Danube* : size of *A. major*.

Upper *mandible* yellowish-green, lower yellowish ; *neck* above with blackish lines ; *throat* with yellowish spots ; *quill-feathers* blackish-brown ; *legs* brown.

Spadicea. Purple-bay : wings, tail and smooth head bay : crown black. *Mexican H.*

Inhabits *New Spain* : 2 foot long.

Equinoctialis. Head smooth : body white : 2 first quill-feathers brown on the outer edge. *Little white H.*

2. Crown and breast saffron : lores and legs yellow-saffron.

3. Lores pale yellow : bill purple : legs pale purple.

Inhabits

Inhabits *America*; 2) *Bononia*; 18 inches long.
Bill and *lores* red; *irids* yellow; *legs* green.

Cræra. Head smooth; body variegated with reddish, above blueish-ash, beneath cinereous; neck beneath and breast white.
 Inhabits *South America*, near the banks of rivers.
Bill black, beneath yellowish-brown; *irids* golden; *orbits* naked, yellowish; *hind-head* and *neck* above brown mixed with a yellow, dead-leaf colour; *lesser wing-coverts* green, edged with rufous, the greater and *quill-feathers* edged with white; *tail* greenish-black; *legs* yellow.

Leucoccephala. Black-violet; crown smooth, black; rest of the head, neck and vent white. *Violet H.*
 Inhabits *Coromandel*; 33 inches long.
Bill and *legs* brown; lower part of the *neck* blueish-black; lower *tail-coverts* white.

Rufa. Black; head smooth; temples ferruginous; breast rufous; lower part of the neck whitish, with longitudinal brownish spots, upper part, back and wings brown-ash. *Rufous H.*
 Inhabits *Austria*; size of *A. major*.
 From each eye to the hind-head a black streak; *legs* brown.

Sinensis. Brown with pale bars; head smooth; wings and tail black. *Chinese H.*
 Inhabits *China*; small. *Bill* yellowish; *legs* green.

Variegata. Ferruginous spotted with brown, beneath paler; front black; chin white; thighs rufous; legs brown. *Variegated H.*

Virgata. Blackish-brown; neck beneath white; throat streaked with black; wing-coverts streaked with yellowish. *Streaked H.*
 Inhabits *North America*; 17 inches long. *Legs* greenish.

Cana. Cinereous; neck brown-ash; belly, cheeks and chin white. *Ash-coloured H.*
 Inhabits *North America*; 25 inches long.
Bill black; feathers of the *flanks* long, broad; *legs* yellowish.
 Vol. I. — 3 D *Caruncula.*

Carunculata. Back, wings, legs and crown black-blue; smooth head and neck white; body beneath black; bill and chin carunculate. *Wattled H.*

Inhabits *Africa*; 5 feet long.

Bill black, with a red base; orbits naked, red; irids reddish; 2 wattles hanging from the chin covered with white feathers.

Malaccensis. Brown; beneath, wings and tail white; smooth head and neck streaked with brown and white; face naked, cinereous. *Malacca H.*

Inhabits *Malacca*; 19 inches long.

Bill black, the base yellow at the sides; feathers of the head and neck long, narrow, loose; legs yellow.

Cinnamomea. Cinnamon; head smooth; chin and vent white; throat streaked with brown; a white stripe each side the chin. *Cinnamon H.*

Inhabits *China*; 18 inches long. Bill and legs yellow.

Pumila. Smooth head and neck varied with yellowish, chestnut and white; body above chestnut, beneath whitish; tail snowy. *Dwarf H.*

Inhabits the *Caspian Sea*; 19 inches long.

Upper mandible black, with a yellowish edge, lower pale ochre, with a yellowish base; face ochre; irids yellow; chin and band reaching as far as the breast white; rump snowy; legs dirty-ash.

Badia. Chestnut, beneath whitish, with a longitudinal snowy stripe down the middle; quill-feathers black; wing-coverts blueish. *Chestnut H.*

Inhabits *Silesia*; size of a crow; builds in trees.

Bill brown; irids yellowish; tail chestnut; legs red.

Philippensis. Beneath white; smooth crown and neck above reddish-brown; back with transverse rufous and brown lines; wings and tail black; throat reddish dirty-white. *Philippine H.*

Inhabits the *Philippine Islands*; 11 inches long.

Bill greenish-yellow; face naked, green; wings edged with reddish-white; legs yellow.

Nova G.

*Nova Gui. Black; head smooth; face naked, greenish.
nea.*

New Guinea H.

Inhabits *New Guinea*; 10 inches long. *Bill* brown.

*Cyanopus. Cinereous, beneath white; head smooth; face blue;
quill-feathers partly white, partly black.*

Cinereous H.

Inhabits *America*; a little larger than a crow.

Bill blue, tip with black; *wing-coverts* cinereous mixed with black; *legs* blueish.

*Maculata. Brown; neck above and upper part of the back spotted
with white; head smooth; lores naked, greenish.*

Spotted H.

Inhabits the fens of *Europe*; 18½ inches long.

Bill brown, beneath greenish-yellow; *quill-feathers* with a black spot at the tip; *legs* greenish-brown.

*Gardeni. Brown; head smooth; back blackish; throat and breast
whitish, spotted with brown.*

Gardenian H.

Inhabits *Cayenne* and *Carolina*; 18—22 inches long.

*Senegalen- Rufous, beneath white; head smooth; feathers of the
sis. throat with a black longitudinal streak down the mid-
dle; wings white, reddish in the middle.*

Senegal Bittern.

Inhabits *Senegal*; 12 inches long.

Bill reddish-brown, beneath yellow; feathers of the neck lax, rufous; *legs* yellow.

*Exilis. Smooth head and body above reddish-bay, beneath white;
sides of the neck rufous; wings and tail black.*

Minute Bittern.

Inhabits *Jamaica*; 11½ inches long.

Bill greenish; *irids* straw-colour; lateral and lower feathers of the neck long, loose; *breast* brownish-black; middle *wing-coverts* ferruginous; some of the *quill-feathers* tipped with chestnut; *legs* green.

**Minuta. Head smooth; body brown, beneath reddish; tail-feathers
greenish-black; lores yellowish, (male).*

Little Bittern.

1. Body

2. Body brown ; edges of the feathers reddish, beneath reddish ; crown, back, wings and tail black, (female).
Inhabits *Europe* and *Asia*, very rare in *England* ; 15 inches long.
Bill yellow-green ; naked part of the *face* yellow ; *irids* saffron ; *legs* green-brown.

E. Bill gaping in the middle.

- Pondiceri-ana.* Grey-ash ; quill-feathers long, black ; middle claw not ferrate. *Pondicherry H.*

Inhabits *India* ; 14½ inches long.

Bill yellow, thick at the base, pointed at the tip, and a little bent in, gaping in the middle ; space between the bill and eyes feathered ; *legs* yellow,

- Coromandeliana.* White ; back, wings and tail black ; upper mandible serrate from the middle to the tip. *Coromandel H.*

Inhabits *Coromandel* : feeds on fish and reptiles.

Bill like the last, and with the *legs* reddish-yellow ; upper part of the *head* with black lines ; *lores* and *chin* naked, black ; *irids* red ; *toes* connected at the base.

- Scolopacea.* Brown ; throat and breast streaked with white ; chin and legs white ; wings and tail copper-colour.

Scolopaceus H.

Inhabits *Cayenne* ; 25 inches long ; an intermediate species between the *Ardea* and *Scolopax* genus.

Bill brown-red, blueish at the tip, and a little bent in ; *nostrils* a mere slit in the furrow of the bill ; *orbits* naked, tawny ; middle-toe connected at the base and pectinate on the inner edge ; *legs* whitish,

51. TANTALUS. *Bill* long, subulate, roundish, subarched : *face* naked ; *tongue* short, broad : jugular pouch naked : *nostrils* oval : *feet* 4-toed, palmate at the base. *Ibis.*

- Loculator.* Face blueish ; bill reddish ; legs, quill and tail-feathers black ; body white. *Wood Ibis.*

2. Head

2. Head and neck white varied with yellow ; body black ; belly cinereous.

3. Wing-coverts white, with a black blotch in the middle.

Inhabits *New Holland* and the warmer parts of *America* ; 3 feet long ; is very slow in flight and stupid ; sits on trees, and feeds on herbs, seeds, fruits, fish and reptiles ; flesh good.

Bill 9 inches long, yellowish-brown ; *irids* reddish.

Male ; head and neck naked, wrinkled, black-blue.

Female ; head and chin naked ; neck grey, downy.

Falcinellus Face black ; legs blue ; wings and tail violet ; body chesnut. *Bay I.*

2. Glossy chesnut ; breast green.

Inhabits *Europe* and *Asia* ; 21 inches long.

Bill black ; head and neck with a few brown and white spots.

Viridis. Face and legs black ; wings green and blue ; neck black-ash, beneath barred with white ; body above and tail green-gold ; beneath and rump blackish-brown.

Green I.

Inhabits *Russia* ; flies in flocks and rests on trees ; feeds on fish and insects ; $9\frac{1}{2}$ inches long.

Bill lead-colour ; above the eyes a white band ; crown with 2 or 3 white spots.

* *Igneus.* Head and neck black ; legs green ; body varied with glossy-blue, blackish, green and claret, beneath dark rufous ; quill and tail-feathers green-gold. *Glossy I.*

Inhabits with the last, but is $3\frac{1}{2}$ inches longer ; was once shot in *Cornwall*. *Bill* green.

Leucocephalus. Head, neck and body white ; bill and face yellow ; legs pale flesh-colour ; rump with long rosy feathers.

White-headed I.

Inhabits *India* ; the largest of its tribe ; every year before the rainy season sheds its rosy feathers.

Breast with a broad band ; wing-coverts and first quill-feathers black ; in the other sex the wing-coverts are edged with white and brown.

Calous. Head white ; hind-head tuberculate, and with the gular pouch bald ; crown, bill and legs black ; body glossy black-green.

Bald I.

Inhabits

Inhabits the *Cape of Good Hope*: 32 inches long.

Irids brown; wing-coverts with a green gloss, coppery near the tip.

Manillensis. Bill and orbits greenish; legs carmine; body reddish-brown, *Manilla l.*

Inhabits the *Philippine Islands*. Irids red.

Minutus. Face, bill and legs greenish; body ferruginous, beneath white. *Lesser l.*

Inhabits *Surinam*. Bill tipped with black.

Cristatus. Face pale; head, part of the neck, tail and vent black; hind-head crested, the feathers partly black, partly white; body ferruginous; wings whitish. *Crested l.*

Inhabits *Madagascar*; 20 inches long.

Bill and legs brownish-yellow.

Melanorhynchus. White; bill, head and legs black. *Black-headed l.*

Inhabits *India*; 21 inches long.

Bill much curved; nape and scrag with minute black spots; irids brown.

Niger. Face, bill and legs red; body black. *Black l.*

Inhabits *Egypt*; 30—40 inches long.

Ibis. Face red; bill pale yellow; quill-feathers black; body whitish-rufous. *Egyptian l.*

Inhabits in vast numbers the lower part of *Egypt*: size of the last; is held sacred by the Egyptians for its use in clearing the land of reptiles and insects, which are left after the inundation of the Nile; rests in an erect posture.

Ethiopicus. White; head and upper part of the neck brown: hind-part of the back and quill-feathers black. *Ethiopic l.*

Inhabits *Ethiopia*; stands 19 inches high.

Bill above green, beneath black; eyes large; legs black.

Ruber. Face, bill and legs red: body scarlet: wings tipped with black. *Scarlet l.*

Inhabits *South America*; 21 inches long; sits on trees, but lays its greenish eggs on the ground; the young are at first black, then grey, just before they fly whitish, and afterwards grow gradually red.

Albus.

Albus. Face, bill and legs red; body white; wings tip with green. *White I.*

2. Face and bill yellow flesh-colour; legs pale flesh-colour; body white; 3 outer quill-feathers tip with black.
Inhabits *Brazil* and *Caribbee Islands*: 22 inches long.

Fuscus. Face, bill and legs red; body brown, beneath white. *Brown I.*
Inhabits *Cayenne* and *Carolina*; near 2 feet long.
Iris grey; lower part of the *back* and *rump* white.

Pallus. Face, bill and legs brown; body white; quill and tail-feathers black.
Inhabits near rivers and lakes in *Chili*; size of a goose; builds in the sedge, lays 2 blueish-white eggs.
Neck 3 feet long; *bill* large, pointed, convex, 4 inches long, naked at the base; *chin* pouched, naked; *plumage* white varied with black; *legs* and *thighs* 2 feet 8 inches long.

Cayannensis. Face dusky-reddish; bill dusky; body black glossy-green. *Cayenne I.*
Inhabits *Cayenne*; 22 inches long; sits in pairs on trees.
Wings and *tail* with a deeper tinge; *legs* brownish-yellow.

Mexicanus. Varied with purple, green and blackish; beneath brown varied with red; wing-coverts green; bill blueish. *Mexican I.*
Inhabits *Mexico*; 3 feet long.

Melanopsis. Back, wings and pectoral band cinereous; head and neck tawny; quill and tail-feathers, thighs and vent black. *Black-faced I.*
Inhabits *New Year Island*; 28 inches long; builds in rocks.
Bill long, black; *face* naked, wrinkled; *gular pouch* naked, plaited, black; *legs* red; feathers of the *head* and *hind-part* of the *neck* long.

Albicollis. Bill black; head and neck reddish-white; body brown, waved with grey and glossy green; legs red. *White-necked I.*
Inhabits *Cayenne*; 27 inches long; greater wing-coverts white.

Griseus.

Griseus. Whitish : hind-part of the head and neck grey : rump, quill and tail-feathers greenish-black. *Grey I.*
Inhabits *Brazil* ; size of a hen.

Hagedash. Cinereous : back varied with green and yellow : wings blue-black, the lesser coverts violet.
Inhabits the *Cape of Good Hope* ; feeds chiefly on bulbous roots.
Bill above red, beneath and at the tip black ; wings beneath dusky ; legs blackish. See *Scolopax leucocephala*.

52. CORRIRA. *Bill* short, straight, without teeth : *thighs* longer than the body : *feet* 4-toed, palmate, the hind-toe not connected.

Italica. Above ferruginous, beneath white : 2 middle tail-feathers white tipped with black. *Italian Courier.*
Inhabits *Italy* ; less than the curlew ; runs swiftly.
Bill pale yellow, black at the end, with a large gape ; irids a double circle of bay and white.

53. SCOLOPAX. *Bill* roundish, obtuse, longer than the head : *nostrils* linear : *face* covered : *feet* 4-toed, hind-toe consisting of many joints.

Guarauna. *Bill* arched yellowish : legs brown : head brown streaked with white. *Brazilian Whimbrel.*
Inhabits *South America* ; 21 inches long.
Bill brown, with a yellow base ; feathers of the head and neck brown, with a whitish edge ; back and body beneath chestnut ; shoulders, wing-coverts, rump and tail brown, with a green gloss ; quill-feathers brown, the outer edge glossy green.

Borealis. *Bill* and legs black : body brown, spotted with grey, beneath pale ochre. *Esquimaux Curlew.*
Inhabits

Inhabits the moist and inundated meadows of *Hudson's Bay*; much less than the common curlew; feeds on worms and berries.

Africana. Bill arched, blackish-brown; legs brown; body cinereous, beneath white; breast with rusty spots. *Cape Curlew.*
Inhabits the *Cape of Good Hope*: size of a snipe.
Face and rump white; edge of the wings mixed white and grey; quill-feathers brown, with white shafts; secondary wing-coverts tipped with white.

**Pygmæa.* Arched bill and legs black; body varied with ferruginous, brown and white, beneath white. *Pigmy Curlew.*
Inhabits *Europe*; very rare in *England*; size of a lark.
Rump white; quill and outer tail-feathers edged with white.

Madagascariensis. Arched bill and legs reddish; back with brown rhomboid spots. *Madagascar Curlew.*
Inhabits *Madagascar*; in size and appearance resembles the next, except that the bill is less arched; chin white, and spots on the body more distinct.

**Arquata.* Bill arched, blackish; legs blueish; wings blackish, with snowy spots. *Common Curlew.*
Inhabits moist and fenny places of *Europe*, *Asia* and *Africa* in flocks; feeds on worms and marsh insects; lays 4 eggs, olive, with brown spots; flesh good.
Lower mandible reddish at the base; body above and breast with dusky brown streaks; chin, rump, belly and vent white; quill-feathers black, within spotted with white; legs blueish, toes flat and broad; nearly 2 feet long.
2. Varied with rufous and black; beneath pale rufous; legs black; wings black, with reddish spots.
Inhabits *North America*. Body less; bill longer.

Luzonensis. White; head and neck with black streaks; belly and tail with black bands; back brown, with white spots; crown black. *Luzonian Curlew.*
Inhabits *Luzonia*; less than the last.

Tahitiensis. Bill brown, reddish at the base; legs blue-grey; crown brown; eyebrows pale; body reddish-white with dusky streaks and spots; back black waved with white. *Otaheite Curlew.*

Inhabits *Otaheite* ; 20 inches long.

Quill-feathers dusky with paler edges ; tail dirty-yellow, near the base with spots, the rest with dusky bars.

Leucoccephala. Bill red ; legs black cinereous ; head and neck white ; body blue ; quill-feathers black.

White-headed Curlew.

Inhabits the *Cape of Good Hope*. See *Tantalus Hagedash*.

• *Phæopus*. Bill arched, black ; legs blueish ; back with rhomboid brown spots ; rump white. *Whimbrel.*

Inhabits *Europe* and *America* ; half the size of *S. arquata*.

Lower mandible reddish at the base ; body above and breast brownish, with dusky brown streaks ; chin, rump, belly and vent white ; tail brown, with dusky bars ; quill-feathers black spotted with white within.

Hudsonica Bill black ; legs blue ; body brown, spotted with white ; belly white ; crown chestnut-brown, with a longitudinal white line in the middle. *Hudsonian Curlew.*

Inhabits *Hudson's Bay* : size of the last.

Eyebrows white ; rump the colour of the back.

Fusca. Bill bent in at the tip ; body black, waved with white ; rump and wings beneath white. *Dusky Snipe.*

Inhabits *Northern Europe* : 12 inches long ; migrates.

Bill black ; legs brown ; lower part of the back and rump white ; quill-feathers brown, spotted with grey ; tail-feathers brown, transversely streaked with white.

Cinerea. Bill black ; legs reddish-brown ; body cinereous, beneath white ; wings with a whitish transverse band.

Terek Snipe.

Inhabits the *Caspian Sea* ; 9 inches long ; gregarious.

Bill a little recurved, black ; throat and breast streaked with cinereous ; feathers brown in the middle ; first quill-feathers brown, secondary cinereous.

Subarquata. Arched bill and legs black ; head, neck and spurious wings brown waved with pale rusty ; body above cinereous, beneath pale rusty ; chin, vent and rump white.

Inhabits the *Caspian Sea* ; 8 inches long.

Lower mandible shorter ; tongue long, arrow-shaped, entire ; eyes brown ; orbits whitish ; lores brown ; rump and vent with brown spots ; tail rounded, brown-ash.

Incana.

- Iracana.* Bill black ; legs yellowish-green ; body cinereous ; spot behind the bill and eyes, chin, throat and middle of the belly white. *Ash-coloured Snipe.*
Inhabits *Palmerston Island* : 11 inches long.
Bill a little incurved at the tip ; chin with brown stripes.
- Grysea.* Bill, legs, wing-coverts and quill-feathers brown ; head, neck and shoulders brown-ash spotted with black ; back and belly white. *Brown Snipe.*
Inhabits the sea coasts of *New York* ; 11 inches long.
Band between the bill and eyes and *stripe* each side above the eyes white ; secondary quill-feathers edged with white ; breast varied with white and brown ; tail and rump with black and white lines ; back-toe high, long.
- Novboracensis.* Varied with black, cinereous and red ; back and belly white ; wings cinereous ; tail barred with white and black. *Red-breasted Snipe.*
Inhabits *New York* : size of *S. gallinago*.
Bill and legs brown ; fore-part of the neck ferruginous with black spots.
- Nigra.* Bill and legs red ; body black. *Black Snipe.*
Inhabits the islands between *Northern Asia* and *America*.
- Nutans.* Bill black ; legs greenish ; body cinereous ; crown and upper part of the back dusky red, streaked, lower white spotted with black. *Nodding Snipe.*
Inhabits *Labradore* ; size of *S. gallinago* ; is continually nodding the head.
Cheeks cinereous streaked with black ; neck and breast mixed cinereous and rusty, with dusky spots ; belly white ; lesser wing-coverts cinereous, greater dusky edged with brown ; quill-feathers dusky, the secondary tipped with white ; tail with black and white lines, reddish at the tip.
- Flavipes.* Bill black ; legs yellow ; body whitish spotted with black ; throat and breast varied with black and white ; belly and tail-coverts white. *Yellow-shank.*
Inhabits *New York* in the autumn ; 11 inches long.
Bill a little bent at the tip ; lesser wing-coverts brown ; primary quill-feathers dusky ; tail with brown and white lines.

Melanoleuca. Bill black : legs yellow : body varied with black and white.

Stone Snipe.

Inhabits during the autumn the sandy shores of *Labradore* : twice as large as *S. gallinago* ; is perpetually nodding the head.

Tail and rump with black and white lines ; primary quill-feathers dusky.

Semipalmata. Semipalmate legs and bill dusky : head and neck streaked black and white : breast white dotted with black : back cinereous, with black arrow-shaped spots.

Semipalmated Snipe.

Inhabits *New York* : 14 inches long.

Belly white ; flanks white, with transverse black lines ; primary quill-feathers dusky, with an oblique white band, secondary white ; middle tail-feathers cinereous, with black lines, outer ones white.

**Rusticola.* Bill straight, reddish at the base : legs cinereous : thighs covered : head with a black band each side.

Wood-cock.

2. Body white.

3. Very pale straw-colour.

4. Head reddish : body white : wings brown.

5. Body spotted : wings snowy.

Inhabits the northern parts of *Europe*, *Asia* and *Africa*, and migrates in winter to the more temperate countries ; 15 inches long ; feeds on worms and insects which it searches for with its long bill in soft ground and moist woods ; flies by night, and returns to its day retreat the same way but lower ; builds on the ground, generally at the root of a tree, and lays 4—5 eggs, rusty with brown spots ; flesh and intestines good.

Upper mandible longer, reddish at the base ; front cinereous ; lower eyelid white ; crown, neck above, back and wing-coverts ferruginous mixed with black and grey ; chin pale ash ; throat yellowish, with small dusky spots ; body beneath whitish, with dusky lines ; quill-feathers dusky, with triangular rufous spots ; tail rounded, cinereous at the tip ; legs brownish.

Minor. Bill straight : legs brownish : front cinereous : hind-head black, with 4 transverse yellowish lines : chin white : body above black waved with tawnyish, beneath yellow.

Little Wood-cock.

Inhabits

Inhabits *America* : $11\frac{1}{2}$ inches long ; flesh delicious.

Lower *mandible* much shorter ; from the *bill* to the *eyes* a dusky line ; greater *wing-coverts* with black and red angular lines, the inner ferruginous ; primary *quill feathers* dusky ; *tail* black, with a brown tip.

Paludosa. Bill and legs brown ; lores and eyebrows black ; body black, varied above with rufous, beneath with whitish. *Savanna Wood-cock*.

Inhabits the savannas of *Cayenne* ; less than *S. rusticola*.

Body beneath varied with black spots.

**Major*. Legs and crown black, the latter with a pale divided line down the middle ; above and beneath the eyes a pale streak ; body above varied, beneath white.

Great Snipe.

Inhabits *Siberia*, rarely *England* : 16 inches long.

Bill like *S. rusticola* ; lower feathers of the *body*, except the middle of the belly, edged with black ; *quill-feathers* dusky ; *tail-feathers* reddish, and except the 2 middle ones with black lines.

Cayennensis. Bill dusky, with a reddish base ; legs brown ; body above ashy-brown spotted with pale yellow, beneath white.

Cayenne Snipe.

Inhabits *Cayenne* ; 13 inches long.

Greater *wing-coverts* whitish, lower ones varied with dusky and white ; *quill feathers* brown, the base and some at the tip white ; *throat* a little spotted ; *rump* white ; *tail* with dusky lines and tip.

**Gallinago* Bill straight, tuberculate ; legs brown ; body varied with blackish and tawny, beneath white ; front with 4 brown lines. *Common Snipe*.

Inhabits every where in marshy places ; near 12 inches long ; feeds on worms, insects and lesser reptiles ; flies with great velocity, and lays 4—5 dirty-olive eggs with reddish spots.

Crown, *bill*, *ocular band* and *wings* black ; *chin* pale rusty ; *tail-feathers* black at the base ; *rump* variegated.

Gallinaria Bill straight, tuberculate ; legs yellow ; head grey ; body variegated. *Finmark Snipe*.

Inhabits *Finmark* ; resembles the last.

**Gallinula*.

- *Gallinula* Bill straight, tuberculate; body variegated; legs greenish; lores brown; rump varied with violet. *Jack-Snipe*.
Inhabits *Europe, Asia and America*; $8\frac{1}{2}$ inches long.
Bill black; body variegated with testaceous, black, violet and glossy green; head with pale yellow and black lines reaching from the bill to the hind-head; breast spotted; belly and vent white.
- Belgica.* Bill very straight, tip with black; head, neck and breast ferruginous; belly white; back, wings, tail and legs black.
Inhabits the *Netherlands*: feeds on land insects.
- Obscura.* Bill straight, purple; legs flesh-colour; head cinereous; quill-feathers black-grey.
Inhabits the shores of the *Caspian Sea*.
- Fidea.* Bill straight, yellowish; legs brown; secondary quill-feathers rufous dotted with black. *American Godwit*.
Inhabits *Hudson's Bay*; 16 inches long.
Bill tip with black; eyebrows white; lores dusky; cheeks and chin white; head and neck varied with dusky and pale brown; breast with black lines; belly brown; back and wing-coverts varied with ferruginous and dusky; quill-feathers ferruginous without; tail with pale brown and black lines.
- *Glottis.* Bill straight, the lower base red; body beneath snowy; legs greenish. *Green-shank*.
Inhabits *Asia, America and Europe*: 14 inches long.
Bill black, the lower mandible bending a little upwards; eyebrows and lower part of the back white; head, neck and back pale cinereous, the shafts of the feathers spotted with brown; quill-feathers dusky, spotted within with white; tail white, with dusky lines; legs very long.
- *Calidris.* Bill straight, red; legs scarlet; secondary quill-feathers white. *Red-shank*.
Inhabits *Europe and America*: 12 inches long.
Bill black towards the tip; irids reddish-hazel; head and neck above cinereous; back and shoulders greenish-brown; wing-coverts cinereous, mixed with dusky and brown, and spotted with whitish; secondary quill-feathers, except the 2 inner ones,

ones, white towards the tip, primary dusky, the 4—5 inner ones tipped with white; line over the eyes white; between the bill and eyes a dusky spot; *chin* and *throat* with short dusky streaks; *body* beneath and *rump* white, with small dusky spots; *tail-feathers* each with 12—13 transverse black lines.

2. Body above grey, beneath white; neck beneath and side of the breast spotted with blackish; rump and tail barred with black and white.

Inhabits *China*.

**Totanus*. Blackish, with white spots, beneath white; lines on the breast and bands on the lateral tail-feathers blackish; legs red. *Spotted Snipe*.

2. Wings with triangular white spots; larger.

Inhabits *Europe*, 2) *North America*; size of *S. glottis*.

**Limosa*. Bill a little bent back, red at the base; body grey-brown varied with rufous, beneath white; quill-feathers white at the base, the 4 first without spots; tail white at the base. *Lesser Godwit*.

Inhabits *Europe*: 17 inches long.

Iris whitish; *cheeks* reddish; *back* brown; *quill-feathers* blackish; feathers round the *bill* reddish-white.

Capensis. Straight bill and line on the crown reddish; band on the breast black; line each side the back white.

Cape Snipe.

2. Olive-green; neck black; crown and throat ferruginous; orbits, scapulars and belly white; quill-feathers and tail with tawny spots.
3. Waved with cinereous, grey and black; head and neck rufous; orbits, chin, scapulars and belly white; pectoral band and eyebrows black; wings and tail with yellow oval spots.
4. White; head and neck black; wings and back green; primary quill-feathers spotted with red.
5. Above with black spots and lunules; back blueish; wings chestnut; lower part of the breast black; cheeks, chin and belly white; orbits and line on the shoulders yellow.

Inhabits the *Cape of Good Hope*; 10 inches long.

Crown cinereous streaked with black; *orbits* white; rest of the head

head and neck rufous; lower part of the *breast*, *belly* and *vent* white; *body* above, *wings* and *tail* cinereous, transversely streaked and waved with black.

Sinenfis. Variegated with blueish, brown, rufous and black; eye-brows, line on the crown, chin and belly white.

Chinese Snipe.

Inhabits *China*: 10 inches long.

Bill long, brown-yellow; *body* above finely waved; *neck* above brown, with transverse black lines, beneath whitish, with longitudinal white streaks; *wings* and *tail* with reddish spots; *legs* grey.

Maderaf-patana. *Bill* reddish; *body* above varied with tawny and blackish, beneath white; streak on the middle of the crown and each side the head black-brown; throat tawny, spotted with blackish.

Madras Snipe.

Inhabits *Madras*.

Back with 2 black-brown bands; *breast* with a transverse black bar; *quill* and *tail-feathers* varied with black, tawny and grey; *hind-toe* as long as the fore-ones.

Indica. *Bill* and *legs* black; *body* dirty-grey, waved with brownish, beneath whitish; band across and beneath the eyes grey.

White Indian Snipe.

Inhabits *India*; less than *S. gallinago*.

Head white; *throat* and *breast* with spots and streaks; *flanks* with dirty-grey bands.

**Laponica.* *Bill* a little recurved, yellowish; *legs* black; *body* beneath reddish-rusty.

Red Godwit.

2. *Head* and *neck* cinereous; *chin* and *belly* white.

Inhabits *Europe* and *America*: 18 inches long.

Bill blackish at the tip; *head*, *neck*, *breast* and *body* above ferruginous, and except the neck, streaked with black; lower part of the *back* and *rump* rufous-white; greater *quill-feathers* black without, the base within white, secondary and *tail-feathers* half black, half white.

**Egoccephala.* *Bill* straight, reddish-yellow; *legs* greenish; *head* and *neck* reddish; 3 of the *quill-feathers* black with a white base.

Common Godwit.

Inhabits

Inhabits *Europe, Asia and Africa* : 16 inches long.

From the *bill* to the *eye* a broad white streak ; *body* above reddish-brown, the feathers with a dusky spot in the middle.

**Leuco-* Brown edged with whitish ; neck whitish ; with small
phaa. brown spots ; chin and belly white ; quill-feathers with black bands. *Godwit.*

Inhabits *Europe* ; 16 inches long.

Bill a little turned up, brown with a purple base ; *tail-feathers* white, the 2 middle ones wholly, the rest barred with brown on the outer side ; *rump* sometimes white.

**Cinereus* Legs long, cinereous ; head, neck and back varied with cinereous and white ; chin and breast white spotted with ash. *Cinereous Godwit.*

Inhabits *Lincolnshire* ; size of *S. glottis*.

Bill thicker than in *S. glottis* ; *tail* with cinereous lines.

**Cantabri-* Legs orange ; bill red ; body above brown-ash, beneath
gienfis. white ; wing-coverts and tail-feathers barred with black. *Cambridge Godwit.*

Inhabits *Cambridgeshire* ; larger than *S. calidris*.

Lower wing-coverts brown edged with white and barred with black ; quill-feathers blackish, white within ; the secondary barred with white.

Candida. Straight bill and legs orange ; body whitish ; tail-feathers white barred with grey. *White Red-shank.*

Inhabits *Hudson's Bay* ; 11 inches long.

Bill tip with black ; *front*, *rump* and *body* beneath white, without spots ; other parts with transverse reddish-grey streaks ; primary quill-feathers grey.

Curonica. Spotted with grey ; wings and bill blackish ; the lower mandible from the base to the middle scarlet ; legs brick-dust colour.

Marmorata. Variegated with blackish and pale rufous spots ; middle
124 of the belly, eyebrows and chin whitish ; breast waved with brown ; quill-feathers reddish, the 4 first without tip with black. *Marbled Godwit.*

Vol. I. — 3 F

Inhabits

Inhabits *Hudson's Bay*; size of *S. fedoa*.

Bill black, a little turned up and reddish at the base; legs black; tail with blackish-brown bars.

Hudsonica Brown, with white spots, beneath rusty-chestnut, with brown bars; eyebrows, chin, rump and base of the tail white. *Hudsonian Godwit.*

Inhabits *Hudson's Bay*; less than the last.

Bill and legs blackish; tail short, black, with a white base.

54. TRINGA. Bill roundish, as long as the head: *nostrils* small, linear: *tongue* slender: *feet* 4-toed; the hind-toe of one joint, and raised from the ground. *Sandpiper.*

**Pugnax*. Bill and legs rufous; 3 lateral tail-feathers without spots; face with flesh-colour granulations.

Ruff and Reeve.

Inhabits *Europe* and *Siberia*: 12 inches long; appears in the fens early in the spring and disappears about Michaelmas; the *ruffs* or males fight with great obstinacy for the females or *reeves*, who lay 4 white eggs, with large rusty spots in a tuft of grass; the *ruffs* are so variable in their colours that 2 are seldom found alike.

Bill sometimes black or yellowish; *irids* hazel; back of the neck with a large tuft of feathers which fall off in moulting season.

Female pale brown; back spotted with black; tail brown, the middle feathers spotted with black; breast and belly white.

**Vanellus*. Legs red; crest pendent; breast black.

Lapwing. Bastard Plover. Pewit.

Inhabits the moist heaths and marshy grounds of *Europe, Asia* and *Africa*; feeds on worms and slugs; lays 4 dirty-olive eggs spotted with black; the parents are very anxious about and fight vigorously for the young; flesh and eggs delicious.

Bill black; *irids* hazel; crown shining black; crest on the hind-head 4 inches long; cheeks and sides of the neck white; beneath each eye a black line; throat black; hind-part of the neck mixed with white, ash-colour and red; back and scapulars

scapulars glossy green, some of the feathers with ferruginous tips; *lesser wing-coverts* shining black-blue and green; *greater quill-feathers* black, the 4 first with a white spot at the end, *lesser* on the upper half black, lower white; *belly* white; *vent* and *tail-coverts* orange; *outer tail-feathers* white, the rest on the lower half black tipped with dirty-white, upper white.

Bononiensis. Black, beneath whitish; head and neck above chestnut; throat and breast with ferruginous spots; tail black.

Greater Lapwing.

Inhabits near *Bononia*: larger than the last.

Bill yellowish tipped with black; *legs* pale yellow.

Erythropus. Legs red; front, rump and tail reddish-white; body above and wings brown-ash; belly sooty. *Red-legged S.*

Larger than *T. pugnax*.

Bill and 7 first *quill-feathers* black, secondary white; *tail* with a black band at the tip.

Fasciata. Bill, crown, hind-head, stripe behind the eyes and belly black; front and rounded tail white; back cinereous; 7 first *quill-feathers* black.

Inhabits *Astracan*.

**Gambetta* Bill and legs red; body variegated with pale yellow and cinereous; beneath white. *Gambet.*

Inhabits *Europe* and *America*; 12 inches long.

Bill tipped with black; *irids* yellowish-green; *wing-coverts* and *scapulars* cinereous edged with yellow; first *quill* and *tail-feathers* dusky, the latter edged with yellow.

**Nigricans* Blackish-ash; chin and middle of the belly white; base of the bill and legs red. *Welsh S.*

Inhabits *Glamorganshire* and *Carmarthenshire*; larger than *T. cinclus*; 8½ inches long. *Linn. Transf. iv. 40.*

Bill slender, tapering, a little curved; *irids* hazel; head and neck dusky black; *eyelids* whitish; back and *scapulars* black edged with ash-colour; *wing-coverts* black-tipped with white; *quill-feathers* black, slightly edged with white on the outer webs, the shafts white; body beneath white, spotted with black, except the middle of the belly and vent; rump black; 2 middle *tail-feathers* black, outer one cinereous, the rest dusky.

**Interpres*. Legs red; body black, varied with white and ferruginous; breast and belly white. *Turnstone. Sea Dottrel.*

Inhabits the sea coasts of *Europe* and *America*; 9 inches long; feeds on worms, which it turns over stones to look after; builds on the ground and lays 4 olive eggs spotted with black.

Bill black, a little turned up at the tip; *cheeks* and *neck* above black; *tail* black in the middle, white at the ends.

Female more dusky; *head* varied with brown and whitish; *neck* above blackish.

*2. Legs red; tail-feathers blackish, white at the base; body grey; breast black.

Inhabits *Scotland* and *North America*.

Body above brown-ash, beneath, *chin* and *rump* white.

3. Varied with brown and white; chin, throat, belly and double band on the wings white; quill-feathers and tail dusky.

Inhabits *Cayenne*. *Bill* brown tip with black; *legs* red.

4. Varied with brown and white, beneath white; breast with brown spots; wings and tail brown, the outer feathers of the latter at the edge and all tip with white.

Inhabits *Cayenne*. *Bill* black; *legs* brown.

Striata. Base of the bill and legs yellow; tail-feathers white, barred with brown; most of the quill-feathers white.

Striated S.

2. Blackish, edged with reddish-grey; breast, belly and rump white; tail-feathers barred with black and white.

Inhabits *Europe* and *North America*; 10½ inches long; feeds on shell-fish and molluscæ, which it searches after at the ebb of the tide, and on insects which it catches hanging over the water like a swallow.

Bill tip with black; *body* above waved with cinereous and blackish; *breast*, *belly* and *rump* white.

**Maculata*. Base of the bill and legs flesh-colour; body every where spotted; eyebrows and double band on the wings white.

Spotted S.

Inhabits *Europe* and *North America*: 8 inches long.

Bill dusky; *body* above greenish-brown, beneath white with dusky spots; 2 middle tail-feathers greenish-brown, the rest white with dusky lines.

Female beneath without spots.

Keptusch.

*Keptusch-
ca.* Body cinereous ; crown black ; belly blackish, towards the
latter part reddish.
Inhabits the marshes of *Siberia*.

**Cinerea.* Cinereous, beneath white ; legs dusky green ; head spotted
with black ; neck with dusky streaks. *Ash-coloured S.*
Inhabits *Europe* and *America* ; 10 inches long.
Back and *wing-coverts* with concentric black semicircles, va-
ried with cinereous and white ; *tail-coverts* black and white ;
tail cinereous edged with white ; *breast* spotted with black ;
membrane surrounding the toes narrow, toothed.

**Fusca.* Pale brown spotted with black, beneath white ; fore-
part of the neck streaked with black ; tail cinereous ;
wing-coverts edged with whitish. *Brown S.*
Inhabits *England* ; size of a Jack-snipe.
Bill and *legs* black.

**Lincolni-
ensis.* White, varied above with grey and brown spots, beneath
with oblong brown and black spots ; 2 middle tail-
feathers all black. *Black S.*
Inhabits *England*, chiefly in *Lincolnshire*.

Atra. Head and neck black ; back and wings brownish mixed
with black ; breast and belly cinereous ; rump cine-
reous, waved with white and black. *Pitchy S.*
Inhabits the banks of the *Rhine*.

Novboracensis. Dusky, beneath white ; breast spotted with brown ; tail
cinereous. *New-York S.*
Inhabits *New York* in *America*.
Feathers of the *back* and secondary *quill-feathers* edged with ci-
nereous ; lesser *wing-coverts* edged with black ; *tail* with
black and white lines.

Virgata. Dusky, beneath white ; legs yellowish ; head and neck
with longitudinal dusky white streaks. *Streaked S.*
Inhabits *Sandwich Bay* ; size of a snipe.
Bill dusky ; feathers of the *back* edged with white ; *scapulars*
with ferruginous spots and edge ; lower part of the *back* and
tail dusky ash ; *wing-coverts* cinereous ; *rump* white.

Borealis.

Borealis. Bill and legs brown; body above cinereous, beneath white; wings and tail dusky. *Boreal S.*

Inhabits *King George's Bay*.

Bill black, a little gibbous at the tip; eyebrows white.

*Nova-ter-
ra.* Above black, beneath white-ash; bill, wings and tail black; legs cinereous. *Newfoundland S.*

Inhabits *Newfoundland*.

Feathers of the upper part of the body edged with ferruginous.

Variegata. Varied above with brown, black and rufous; front and chin pale; throat and breast whitish, longitudinally streaked with black; belly white; bill and legs dusky. *Variegated S.*

• *Lobata.* Bill subulate, bent in at the tip; feet pinnate; breast waved with white. *Grey Phalarope.*

2. Beneath white, above black, with longitudinal yellowish stripes; band on the wings white; feet lobate.

Inhabits *Europe, Asia and America*, rarely *England*; size of the common Purre: in stormy weather swims in numbers on lakes, but in fine weather is solitary among the fens.

Bill black; front white; crown dusky; neck above pale ash; back, rump and shoulders dove-colour, with dusky spots; wing-coverts and quill feathers brown; breast and belly white; tail dusky, edged with cinereous; legs black, membrane round the toes indented.

Glacialis. Feet pinnate, yellowish; bill black, dilated at the tip; cheeks and throat testaceous; body above dusky, beneath white. *Plain Phalarope.*

Inhabits the *Northern Icy Seas*.

Crown dirty-yellow; line across the eyes black; first and third quill-feathers edged with dirty-yellow; wing-coverts and tail cinereous; membrane round the toes entire.

Fusca. Bill, crown and pinnate feet black; body above brownish-ash, beneath white; throat cinereous, tinged with rosy. *Brown Phalarope.*

Inhabits *America*. Membrane round the toes serrate.

Cancellata.

Cancellata. Upper feathers brown edged with white, lower white with transverse dusky lines; feet pinnate, dusky.

Barred Phalarope.

Inhabits *Nativity Island*; $7\frac{1}{2}$ inches long.

Bill black; quill-feathers and coverts dusky, with paler edges and tips.

**Hyperborea*. Bill subulate, bent in at the tip; feet pinnate; breast cinereous; sides of the neck ferruginous, (male).

Red Phalarope.

2. Grey, beneath rufous: rump white; eyebrows and base of the tail reddish, (female).

3. Waved with brown; chin and belly white; sides of the neck with a rufous spot, (variety of the male).

Inhabits *Northern Europe* and *America*; 8 inches long; migrates and comes in pairs.

Male; bill black; band through the eyes blackish; bar on the wings white; rump with blackish bands.

Female; bill yellowish; band above the eyes reddish; bar on the wings white; rump spotted with blackish.

**Alpina*. Brown-testaceous; breast blackish; tail-feathers whitish-ash; legs brownish.

Alpine S.

Inhabits *Europe*, *Asia* and *America*; $9\frac{1}{2}$ inches long.

Belly white; 2 middle tail-feathers a little longer.

Helvetica. Bill and legs black, beneath black; vent white; tail-feathers white, barred with black.

Swiss S.

Inhabits *Europe* and *America*; 11 inches long.

Front white; hind-head varied with black and white; cheeks, throat, breast and belly black; feathers of the neck above white, the shafts spotted with brown; back and wing-coverts white, spotted with black; primary quill-feathers black; tail white with narrow black bands.

**Ochropus*. Bill dotted at the tip: legs greenish: back brown-green: belly and outer tail-feathers white.

Green S.

2. Back and wings cinereous, with pale whitish spots: lateral tail-feathers without barred with black: bill black.

Inhabits *Europe* and *America*; 10 inches long; is solitary and smells of musk.

Bill greenish; crown and hind-head dusky ash; rump variegated; eyebrows white.

Littorea.

Littorea. Smooth bill and legs cinereous : quill-feathers brown, the shaft of the first snowy. Shore S.

Inhabits *Europe* ; near 11 inches long.

Region of the eyes whitish ; line between the eyes and bill brown ; crown blackish ; neck brown with oblique blackish lines ; back brown with ferruginous spots and dots ; rump white, the feathers blackish towards the base ; breast, belly and tail-coverts beneath white ; tail-feathers wave-spotted with brown and white, the outer ones for the greater part brown.

**Grenovicensis*. Body above varied : neck beneath cinereous : belly, vent and sides of the rump white. Greenwich S.

Inhabits *England* ; size of the last ; a rare bird.

Bill black ; legs greenish ; crown brown, streaked with black ; neck beneath ashy ; back and wing-coverts brown-ferruginous edged with whitish ; hind-part of the back, rump and lesser wing-coverts cinereous ; tail cinereous, the feathers waved towards the tip, which is pale rusty.

Equestris. Legs greenish : back varied with brown : belly and rump white. Chevalier S.

Inhabits *Europe* : 12 inches long.

Body waved with grey, rufous and brown ; tail rufous-brown, the 2 middle feathers barred with black ; bill and feet blackish.

Clareola. Bill smooth : legs greenish : body brown, dotted with white : breast whitish. Wood S.

Inhabits the moist woods of *Sweden* ; size of a snipe.

Rump and belly white ; quill-feathers brown, the secondary tipped with white ; tail barred with brown and white.

Leucoptera Black, beneath rufous : breast cinereous : legs green : vent yellow. White-winged S.

Inhabits *Otaheite* and *Eimeo* ; $8\frac{1}{2}$ inches long.

Bill cinereous, and with the legs sometimes yellowish ; iris dusky brown ; eyebrows pale or ferruginous ; wing-coverts white, the greater sometimes mixed ferruginous and black ; 2 middle tail-feathers black-brown, the rest with black and rufous lines.

Maritima.

Maritima. Above varied with grey and black, beneath white; legs yellow; middle of the back violet; throat and tail dusky. *Selninger S.*

Inhabits *Norway* and *Iceland*; size of a *stare*.

Four outer tail-feathers very short, edged with white.

Undata. Dusky, waved with pale yellow and white; rump, secondary quill-feathers and wing-coverts at the tips white; tail cinereous, tip with black. *Waved S.*

Inhabits *Denmark* and *Norway*.

Bill and legs black-brown.

Uniformis. Entirely pale ash; bill short, black. *Uniform S.*
Inhabits *Iceland*.

**Hypoleucos*. Bill smooth; legs livid; body cinereous, with black stripes, beneath white. *Common S.*

Inhabits *Europe* and *America*: $7\frac{1}{2}$ inches long; wags the tail, and lays 4—5 dirty-yellowish eggs with pale spots, in banks.

Bill brown; irids hazel; head brown, with black streaks; eyebrows white; neck above cinereous; back and wings greenish-brown, with numerous narrow, dusky lines; quill-feathers brown, and except the first with a white spot within; tail rounded, shining green-brown.

**Canutus*. Bill smooth; legs ashy; primary quill-feathers serrate; outermost tail-feather white without spots. *Knot.*

Inhabits *Europe* and *America*; 9 inches long; eggs flesh-colour, with crowded orange-red spots; flesh delicious.

Bill dusky-ash; irids hazel; lores dusky; eyebrows and band on the wings white; body above cinereous, beneath white; lower wing-coverts tipped with white; chin and breast with minute spots; belly and vent with dusky lines; rump with brown semicircles.

Australis. Above cinereous, spotted with brown, beneath reddish; belly and rump whitish; wings and tail dusky; bill and legs black. *Southern S.*

Inhabits *Cayenne*; 11 inches long.

Crown streaked with brown; rump with dusky lines; upper tail-coverts very long.

Arenaria. Bill and legs black ; body grey, beneath and face white ; lores grey.

Inhabits the sandy shores of *Europe* and the *Caspian Sea*.

**Cinclus.* Bill and legs black ; lores white ; body and rump grey and brown.

Sanderling. Purre. Stint.

2. Legs brown.

Inhabits *Europe, Asia* and *America* ; $7\frac{1}{2}$ inches long.

Head and neck above pale cinereous, with brown streaks ; back and wing-coverts brownish-ash, the greater tip with white ; throat white, mixed with brown ; breast and belly white ; 2 middle tail-feathers more dusky, the rest edged with white.

Ruficollis. Legs black ; head above and neck ferruginous streaked with black ; throat ferruginous.

Red-necked Purre.

Inhabits in large flocks about the salt lakes of *Dauria* ; much resembles the last, of which it is perhaps a variety.

Calidris. Bill and legs blackish ; body beneath olive ; rump variegated.

Dusky S.

Inhabits *Europe* ; $9\frac{1}{4}$ inches long.

Bill pale at the base ; body above black-brown ; tail-feathers grey-brown, and except the 2 middle ones, edged with white.

Navia. Bill dusky ; legs greenish ; body above cinereous, spotted with red and black, beneath reddish-white, spotted with dusky and bay.

Freckled S.

Inhabits *Europe* ; 9 inches long.

Tail-feathers cinereous edged with white, the outer ones without with a longitudinal white line.

Grisea. Grey, beneath white ; neck beneath, rump and breast waved with brown ; tail-feathers edged with white.

Griffed S.

Inhabits *Europe* ; $9\frac{1}{4}$ inches long.

Bill and legs black ; primary quill-feathers brown.

**Puffin.* Bill and legs brown ; body beneath reddish ; outer tail-feathers with a white shaft ; rump variegated.

Little S.

Inhabits

Inhabits *Europe* and *Nootka Sound*; 5½ inches long.

Bill tip with black; greater wing-coverts and quill-feathers brown, tip with white; tail dusky; breast and belly white.

**Squatarola*. Bill black; legs greenish; body grey, beneath white.

Grey S.

2. Bill and legs black; body brown varied with white; belly white; tail-feathers white, barred with brown.

Inhabits *Europe* and *America*; 12 inches long.

Head, back and wing-coverts black, edged with greenish-ash; cheeks and chin with oblong dusky spots, and with the belly and rump white, 2) rump variegated; tail barred with black and white; 2) outer tail-feathers white.

**Islandica* Bill and legs brown; body beneath ferruginous; secondary quill-feathers edged with white. Aberdeen S.

Inhabits *Europe*, *America* and *Iceland*; 8—10 inches long.

Body above thickly sprinkled with black and ferruginous; wing-coverts white on the outer edge; rump and vent whitish, the former waved with black, the latter with a few black streaks; quill-feathers black with white shafts; tail-feathers cinereous with white shafts.

55. CHARADRIUS. Bill roundish, obtuse, straight; nostrils linear; feet formed for running, 3-toed. Plover.

**Hiaticula*. Breast black; front blackish, with a white band; crown brown; legs yellow. Ringed P.

Inhabits *Europe* and *America*; 6—7 inches long; frequents the shores of *England* early in the spring, and migrates in autumn.

Bill the upper half orange, lower black; irids hazel; body above grey-brown, beneath white; eggs blueish-white, with small, round, purplish spots.

2. Grey; collar and belly white.

Inhabits *Spain*.

Front grey; quill-feathers brown; orbits yellow; bill black; tail-feathers brown, 6, 6 without spots, 3, 4, 5 tip with white, 2 outer white, with a brown spot in the middle.

3 G 2

3. Grey-

3. Grey-ash ; front and collar white ; lower half of the tail black tip with rusty.

Inhabits America. Bill black ; legs pale.

Alexandri-nus. Brown ; front, dorsal collar and belly white ; lateral tail-feathers each side white ; legs black. *Alexandrine P.*

2. Pectoral band black ; eyebrows white ; tail-feathers with a black band, and tip with white ; legs blue.

3. Pectoral band and crown black ; body above pale brown, beneath white ; tail white, with a black band at the tip ; legs red.

Inhabits Egypt near the Nile.

Bill and legs black ; quill-feathers blackish-gray, 1, shaft white ; 5—8 with an oblong white spot on the outer edge, secondary and coverts tip with white ; tail-feathers 1, 2 each side white, 3, 4 each side dirty-white tip with brown ; 5, 6 blackish-brown, a little longer than the rest.

Egyptius. Above bright ash-colour, beneath white with a reddish tinge ; head deep green ; upper part of the breast with a narrow, deep shining green band passing half way round. *Egyptian P.*

Inhabits Egypt ; 8 inches long. *Sonnini, vol. ii. 209.*

Bill black, a little curved at the tip ; above the eyes and surrounding the head a white fillet ; quill-feathers white, tip with black, and a black spot in the middle of each, forming a band across the wings ; tail with a broad black band near the end, and terminated with white ; legs blueish.

Novæ Seelandiæ. Green-ash ; face and collar black ; annular stripe on the head, band on the wings and body beneath white. *New Zealand P.*

Inhabits New Zealand ; 8 inches long.

Bill and legs red ; face beyond the eyes and as far as the hind-part of the neck each side black ; irids glaucous.

Gregarius. Cinereous, beneath white ; breast with a black semicircle, on the hind-part rufous ; tail-feathers white, with a black band. *Gregarious P.*

Inhabits plentifully near the Volga and Ural ; in size and habits resembles *Tringa vanellus*, and in its bill and subterdactylous feet.

Front and broad band over the eyebrows white ; lores black.

Afaticus.

Asiaticus. Above brown, beneath white; throat ferruginous; transverse pectoral band brown; bill and legs tawny; tail rounded, edged with whitish. *Asiatic P.*

Inhabits the salt lakes in the deserts of *Tartary*; a rare and solitary bird; larger than *Ch. hiaticula*,
Front, eyebrows and temples white,

Tartaricus. Neck cinereous; breast ferruginous; band on the chin and breast black; belly white; wings and tail brown.

Tartarian P.

Inhabits near the salt lakes of southern *Tartary*.

Mongolus. Brown-ash; front and beneath white; throat and breast ferruginous; chin with a black semicircle.

Mongolian P.

Inhabits near the salt lakes round *Mongolia*; the size and shape of *Ch. morinellus*; solitary.

Vociferus. Bands on the breast, neck, front and cheeks white; tail pale yellow, with a black bar; legs yellow.

Noisy P.

2. Breast varied with black; front white; crown and collar black; bill and legs blueish; 3 outer tail-feathers tipped with white.

Inhabits *America*: $9\frac{1}{4}$ inches long, 2) $8\frac{1}{4}$; is very restless and noisy; migrates in spring to *New York*.

Body above brown, beneath white; bill, eyes and greater quill-feathers black; eyebrows red; front white; feathers of the rump long, rusty-orange; tail rounded, tipped with white.

Jamaicensis. Above brown, beneath white; breast black and white; tail varied with rufous, whitish and blackish; bill black; collar and legs white. *Collared P.*

Inhabits *Jamaica*, near the banks of rivers; 8 inches long.

Iris orange; joints of the toes dusky; claws black.

**Morinellus.* Breast ferruginous; band over the eyes and line on the breast white; legs black. *Dotterel.*

2. Crown varied with white, grey-brown and yellowish; body beneath yellowish mixed with white; 2 middle tail-feathers brown, the lateral ones white.

Inhabits

Inhabits *Europe*: 9—10 inches long; a very foolish bird.

Bill black, depressed in the middle; front mixed with dusky and grey; hind-head black; temples and chin white; neck above, back and wings grey-brown; line across the breast white; middle of the belly black, below reddish-white; greater quill-feathers brown, some of them edged with white; tail olive-brown, with a dusky band near the end, and tip with white.

Female, band over the eyes dusky; crown brown.

Falklandicus. Brown-waved; front, neck beneath and belly white; annular stripe on the head ferruginous; breast and band on the crown black. *Rusty-crowned P.*

Inhabits *Falkland Islands*: $7\frac{1}{4}$ inches long.

Bill and legs blackish; body beneath white; circular stripe on the head resembling a crown, which is wanting in the female.

Atricapillus. Above brown-ash, beneath white; bill and legs red; crown black, surrounded with a white circle; neck and breast cinereous, terminated by a transverse dusky streak. *Black-crowned P.*

Inhabits *New Zealand*: 10 inches long.

Chin dusky-white; quill-feathers dusky; claws black.

Fulvus. Above black, the feathers edged with tawny; beneath whitish spotted with black; bill dusky; legs glaucous; breast tawny spotted with black; wings with a white band. *Fulvous P.*

2. Bill brown; legs yellowish; wings without the white band.

Inhabits *Otaheite*: 12 inches long, 2) 10.

Front and chin dusky white; wing-coverts black, with tawny spots, the lower ones black-brown, tip with white; tail black-brown, with whitish bands; claws black, obtuse.

Leucogaster. Brown, beneath white; legs pale blue; front and line above and beneath the eyes white. *White-bellied P.*

Length 6 inches; some of the secondary quill-feathers from the base to the middle white; tail-feathers 6, 5, 4 brown, 4, 4 white at the base and tip, 3, 2, 1 white, 2, 2 on the outer web with a brown spot near the tip, 1 tip with black.

Rubri-

Rubricollis Above cinereous, beneath white; bill and legs flesh-colour; wings and tail dusky; head and neck black; neck with a large square bay spot each side.

Red-necked P.

Inhabits *Van Diemen's land*: size of *Tringa cinclus*.
Bill tipped with black; irids orange.

Apricarius Chin and belly black; body dotted with brown, white and pale yellow; legs cinereous.

Alwargrim P.

Inhabits *Europe, America and Siberia*: size of *Ch. pluvialis*.

General colour black; irids brown; temples black (in the female brown); front, eyebrows, lower eyelid, flanks and vent white; wings and tail with brown and black bands.

**Pluvialis* Body blackish, spotted with yellowish-green, beneath whitish; legs blackish.

Golden P.

Inhabits almost every where, in *England* during winter on heaths and moors; breeds on unfrequented mountains, and makes a whistling noise; eggs dirty-white, irregularly spotted with purple.

Bill and legs black; irids red; orbits and chin nearly white; temples, neck and flanks dusky, with greenish-yellow spots; middle of the belly whitish; wing-coverts and quill-feathers blackish tipped with white, the shafts of the latter partly white; tail with dusky and yellow bars; feet sometimes with a black-toe.

2. Body blackish, varied with yellowish, beneath white; lower part of the neck and breast pale grey.

Inhabits *St. Domingo*.

Rubidus. Red spotted with black and sprinkled with white; bill and legs black; 2 middle tail-feathers brown, edged with ferruginous, the rest whitish.

Ruddy P.

Inhabits *Hudson's Bay*.

Four first quill-feathers brown without, white within and tipped with brown, the rest above white, beneath brown.

**Calidris*. Bill and legs black; lores and rump greyish; body beneath white without spots. *Sanderling. Curwillet.*

2. Body cinereous varied with brown; wing-coverts black, edged with cinereous, the greater cinereous, edged with white; quill-feathers and tail dusky.

Inhabits

Inhabits the sandy shores of *Europe* and *America*; 8 inches long.

Front and *cheeks* whitish; band across the *eyes* grey; *head*, *neck* and *body* above black-streaked; feathers of the *back* and *scapulars* brownish-grey, edged with whitish; *wing-coverts* and *quill-feathers* dusky tipped with white, the shafts of the latter partly white; *tail* cinereous, with a paler edge.

Sibiricus. *Front* varied with white and black; crown barred with blackish; breast brown, terminated by a white band; belly ferruginous. *Siberian P.*

Inhabits *Siberia*.

* *Himantopus*. White; back and wings black; bill black, longer than the head; legs red, extremely long. *Long-legged P.*

2. Wings varied with white and black; tail-feathers white.

Inhabits most temperate climates; is rare in *England*, and with its long legs measures $1\frac{1}{4}$ feet.

Bill black, slender, tapering to a sharp point, the upper mandible a little longer and bent over the lower; *irids* red; *neck* above with dusky spots.

Splingus. Quill-feathers breast and legs black; hind-head crested; tail-feathers half white; spurious wings spurred.

Spur-winged P.

2. Above chestnut; neck and lower part of the belly white; breast, wings and tip of the tail black.

Inhabits *Egypt*, 2) *Europe* and *Asia*; 12 inches long.

Bill black; crown, chin, semicircle on the breast, lesser wing-coverts, spurs and tip of the tail black; neck, shoulders, middle wing-coverts and body above grey; temples, body beneath, greater wing-coverts and tail ochre.

Cayanus. Head, hind-part of the neck and band on the breast black; annular band on the hind-head, fore-part of the neck, belly and base of the tail white; spurious wings spurred. *Cayenne P.*

Inhabits *Cayenne*: 9 inches long.

Bill black; legs yellow; body above brown; hind-head varied with brown and surrounded with a white fillet; *scapulars*, *quill-feathers* and tip of the tail black.

Pileatus.

Pileatus. Bill and legs red; face naked, yellow, warty; head and part of the neck black; hind-head subcrested; body above reddish-grey, beneath white. *Hooded P.*

Inhabits Senegal; $10\frac{1}{2}$ inches long.

Bill yellow at the base, tip with black; crest short, pointed; throat a little spotted; wings and tip of the short tail black.

Coronatus. Bill reddish; legs ferruginous; head black; circle on the crown, belly, greater wing-coverts and black-barred tail white; throat grey; neck above and back shining-brown. *Wreathed P.*

Inhabits the Cape of Good Hope; 12 inches long.

Bill dusky towards the tip; breast brown, with a shade of greenish-purple and spotted with black; wings black.

Bilobus. Bill and legs yellow; front with a pendent, pointed wattle; body above yellowish-grey, beneath white. *Wattled P.*

Inhabits Malabar; $9\frac{1}{2}$ inches long.

Crown, bar on the tail and wings black; band across the eyes, greater wing-coverts and tips of some of the tail-feathers white.

Melanoccephalus. Blue-grey; head, hind-part of the neck and back black; eyebrows, fore-part of the neck and breast pale rufous. *Black-headed P.*

Inhabits Senegal; 7 inches long.

Bill brown; legs grey; quill feathers black, varied with white; lateral tail-feathers towards the tip black, tip with white.

Indicus. Brown; beneath white; breast with 2 brown bands; tail-feathers white at the base. *Indian P.*
Inhabits India; 6 inches long.

Galliens. Brownish with a pale stripe through the eyes; quill-feathers, spot behind the eyes and near the tip of the lateral tail-feathers black. *Cream-coloured P.*

Inhabits Europe, though very rarely; 10 inches long.

Bill black; legs yellowish; sides of the head and chin whitish; crown rufous; tail grey-brown, and except the 2 middle feathers with a black spot near the end and tip with white.

Vol. I. — 3 H

3. Reddish

- *2. Reddish-yellow; sides of the head, chin and belly paler; behind the eyes a dusky spot; wings and lateral tail-feathers near the tip black.

This bird was once shot in *Kent*; size of the last.

Body with a few waved dusky stripes; cap rusty-brown, with minute blackish spots; 4 first quill-feathers at the tip very slight rufous. Probably the other sex.

- Coromandelicus*. Brown, beneath rufous; eyebrows, chin, lower part of the belly, rump and tip of the tail white; quill-feathers and band through the eyes black,

Coromandel P.

Inhabits *Coromandel*; size of the last.

Bill and tail brown; thighs white, between them blackish.

- Curonicus*. White; bill blackish; band on the crown and semicircle on the front white; cap cinereous; band through the eyes blackish-waved; back, wings and tail cinereous; legs reddish.

Inhabits *Curonia*. Orbits citron.

- Navius*. Above varied with cinereous black and white, beneath white; band beneath the eyes dotted with black; bill and legs blackish.

56. RECUVIROSTRA. Bill depressed, subulate, recurved, pointed, flexible at the tip: feet palmate, 4-toed, the hind-toe not connected; very short and placed high up: nostrils narrow, pervious: tongue short. *Avocet.*

- **Avocetta*. Variegated with white and black. *Scooping Av.*
Inhabits *Southern Europe*, near the sea; 18 inches long; feeds on worms and insects, which it scoops from the sand and mud with its bill; eggs 2, white, tinged with green and marked with large black spots.

Bill

Bill $3\frac{1}{2}$ inches long; *irids* hazel; *crown* black; behind and beneath the *eyes* a white spot; rest of the *head*, *neck*, *back*, exterior part of the *wings*, *lesser quill feathers*, *tail* and *body* beneath white; *inner scapulars* and *greater quill-feathers* without and at the tips black; *legs* blueish, very long; *membrane* connecting the toes indented.

Americana Head and neck reddish; back black, beneath white.

American Av.

Inhabits North America and New Holland; 14 inches long.

Bill black; *front* dusky-white; *neck* above white; *primary* and *tertial wing-coverts* black, the middle ones and some of the *secondary quill feathers* white.

Alba.

White; lower *wing-coverts* brownish; *bill* orange; *legs* brown.

White Av.

Inhabits *Hudson's Bay*; $14\frac{1}{2}$ inches long.

Bill tip with black; edge of the *wings*, *greater quill feathers* and *tail* tinged with yellowish.

57. HÆMATOPUS. *Bill* compressed, the tip an equal wedge; *nostrils* linear; *tongue* a third part as long as the *bill*; *feet* formed for running; 3-toed, cleft.

**Ostrale-* H.
gus.

Sea-pie. Pied Oyster-catcher.

Inhabits almost every *sea-shore*; $16\frac{1}{2}$ inches long; feeds on marine worms and insects, but chiefly on oysters and limpets, which it extracts from the shells with great dexterity; eggs 4—5, olive-yellow, with irregular purplish spots.

Bill, *eyelids* and *legs* red, the former sometimes tip with black; *irids* scarlet; *body* sometimes totally black; frequently *head*, *neck* and *body* above black, beneath white; under the *eyes* a small white spot; *breast* with a white semicircular band; *middle wing-coverts* at the tips and *greater* entirely white; *quill-feathers* within spotted with white; *tail* from the base to the middle white, lower half black; *claws* black.

58. GLAREOLA. *Bill* strong, short, straight, hooked at the tip: *nostrils* at the base of the bill, linear, oblique: *gape* of the mouth large: *feet* 4-toed, toes long, slender, connected at the base by a membrane: *tail* forked, consisting of 12 feathers. *Pratincole.*

Austriaca. Above grey-brown; collar black; chin and throat white; breast and belly reddish-grey. *Austrian P.*

2. Beneath white; front black, with a white spot each side; collar brown.
3. Beneath and rump white; chin streaked with black and surrounded by a black curved line.
4. Brown; beneath, rump and base of the tail white.
5. Tail-feathers brown, the outer ones with a white curved band.

Inhabits the heaths of *Europe*, near the banks of rivers, 4, 5) the coast of *Coromandel*; about 9 inches long; feeds on worms and aquatic insects; is very restless and clamorous.

Bill black, red at the base; upper wing-coverts whitish; quill and tail-feathers dusky, the outer side of the first tail-feathers white; legs and naked part of the thighs sometimes red or lead-colour.

Senegalensis. *Bill*, legs and whole body brown. *Senegal P.*
Inhabits near the *Senegal* and *Siberia*; 9½ inches long.

Navia. Brown, spotted with white; lower part of the belly and vent reddish-white, with black spots; bill and legs black. *Spotted P.*

Inhabits *Germany*; size of *Gl. austriaca*.

Spots on the upper part of the body less distinct; quill-feathers black, the secondaries black and cinereous; tail whitish, tip with black.

59. FULICA.

59. FULICA. Bill convex, upper mandible arched over the lower at the edge, lower gibbous near the tip: *nostrils* oblong: *front* bald: *feet* 4-toed, sub-pinnate.

- * These frequent waters, and feed on worms, insects and small fish; have a body compressed; bill thick and bent in towards the tip, the upper mandible reaching far up the forehead; wings and tail short. The *Gallinules* have the feet cleft, the upper mandible membranaceous at the base, and the wings concave. The *Coots* have the toes surrounded by a scalloped membrane, the mandibles equal, nostrils oval, narrow and short.

A. Feet cleft. Gallinule.

Fulca. Front and bracelets yellowish; body brownish. *Brown G.*
2. Body above chestnut, beneath cinereous, the feathers edged with white; head and neck blackish; lower part of the belly white.

Inhabits *Southern Europe*; 12 inches long; flesh good.

Bill olive-green; legs and body above olive-brown, beneath cinereous waved with white; edges of the wings white; outer tail-feather each side white.

* *Chloropus.* Front tawny; bracelets red; body blackish.

Moor-hen. Common G.

Inhabits *Europe* and *America*; 14 inches long; flies with difficulty, but runs and swims well; builds near the water side on low trees or shrubs; strikes with its bill like a hen; lays 7 dirty-white eggs twice or thrice a year, thinly spotted with rusty; flesh delicious.

Bill red, with a greenish tip; irids red; body above sooty mixed with olive, beneath cinereous; outer edge of the wings and lower tail-coverts white; legs greenish; toes flat, broadish.

Viridis. Above green, beneath white; front, bill and legs greenish-yellow. *Green G.*

Inhabits *India*; 11½ inches long; claws grey.

Melanoc-

- Melanocephala.** Blue ; head and neck black. *Black-headed G.*
 Inhabits America ; size of *F. porphyrio* ; perhaps a variety:
Female ; crown and body above tawny ; shoulders streaked with
 white ; wings greenish, with a tawny tinge ; quill-feathers
 greenish-blue.
- Alba.** Body white ; front, bill and legs red. *White G.*
 Inhabits islands in the South Sea ; 2 feet long.
Bill strong, shortish, naked part nearly covering the whole head ;
 irids reddish ; area of the eyes covered with red granules ;
 back and interscapular region sometimes spotted with blue.
- Purpurea.** Purple ; bill pale ; legs greenish-yellow. *Crowing G.*
 Inhabits the marshes of New Spain ; crows like a cock.
- Flavirostris.** Above blue ; throat blueish-white ; belly and rump white ;
 wings and tail brown ; bill and legs yellow. *Favourite G.*
 Inhabits Cayenne ; 12 inches long.
- Porphyrio.** Front red ; bracelets many ; body green, beneath violet. *Purple G.*
 Inhabits most temperate and warm places ; 15 inches long ; is
 docile and easily tamed ; stands on one leg and lifts the food
 to its mouth with the other ; feeds on fish, roots, fruits and
 seeds.
Bill and legs red ; irids tawny ; head and neck above glossy
 violet ; cheeks and throat violet-blue ; back and rump glossy
 green ; wings and rounded tail shining green, within brown.
- Violacea.** Black-violet ; neck beneath blue ; front and legs red. *Violet G.*
 Inhabits with the last. Vent white.
- Carthagina.** Front blue ; body rufous. *Carthage G.*
 Inhabits Carthage in America ; size of *F. atra*.
- Cayanensis.** Grey-brown ; breast and upper part of the belly rufous ;
 back and wings olive ; chin whitish. *Cayenne G.*
 Inhabits Cayenne ; 18 inches long.
Bill pale yellow, tip with dusky ; legs red.
- Ruficollis*

Ruficollis. Crown, neck above, back and quill-feathers brown; chin white; throat and breast rufous; belly, vent and rump black. *Black-bellied G.*

Inhabits Cayenne; 17 inches long.

Bill red at the base, yellow at the tip; quill-feathers edged with rufous; flanks and lower wing-coverts with transverse rufous and black bands; legs long, red.

Maderaf-patana. Front and temples white; body above cinereous, beneath white. *Madras G.*

Inhabits Coromandel and Malabar; size of a duck.

Throat with black semicircles; quill-feathers cinereous, edged with black; bill and legs very long.

Martinicensis. Front and bracelets blue; body violet. *Martinico G.*

Inhabits inundated parts of the Antilly Isles; 12 inches long.

Bill red, tip with yellow; eyes black; legs yellow; back and upper part of the wings greenish-brown; tail blackish above, white beneath.

Novaboracensis. Legs brown; crown and neck above olive spotted with white; back brown; breast dirty-yellow. *Yellow-breasted G.*

Inhabits New York; size of a quail.

Scapular-feathers yellow at the edge.

Navia. Bill and legs greenish; front saffron; feathers of the head and upper parts of the body black, edged with rufous, of the back edged with white; eyebrows white; wings and tail brown. *Grinette G.*

Inhabits Italy; 9½ inches long.

Iris yellowish-green; chin, throat and breast blueish-ash, spotted with black; belly reddish; flanks with transverse black and white lines; wing-coverts rufous, with transverse waved or angular lines; outer edge of the quill-feathers white; tail-feathers on the outer edge, and 2 middle ones on each edge white.

Maculata. Above reddish-brown; front and bill yellow; temples and throat white; wings spotted black and white; breast, belly and tail brown; 2 middle tail-feathers black, tip with white. *Speckled G.*

Inhabits Germany; 11 inches long; legs grey.

Flavipes.

Flavipes. Front and legs yellowish; head, body above and tail rufous; spotted with black; beneath white; wings black. *Yellow-legged G.*

Inhabits Germany; size of *G. chloropus*.

Bill yellow tip with black; edge of the eyelids saffron; temples white; greater wing-coverts next the body white, the rest and lesser with dusky spots, and near the tip edged with reddish.

Fistulans. Front yellowish-green; body above brown, beneath white; wings and tail brown. *Piping G.*

Inhabits Germany, near lakes and fish-ponds.

Bill black; temples white; legs yellowish-grey; claws grey.

Cinerea. Cinereous; middle of the belly white; front and gibbous crown bald, reddish; legs brown. *Crested G.*

Inhabits China; 18 inches long.

Chin with white stripes; back and wings greenish-ash, the latter pale on the outer edge.

B. Feet pinnate. Coot.

**Atra.* Front flesh-colour; bracelets greenish-yellow; body blackish. *Common C.*

2. Black; wings white.

3. Entirely black; breast and belly waved with ferruginous.

4. Brown; chin, belly and primary quill-feathers white; head spotted with white; upper mandible red.

5. White; head and wings with a few spots.

Inhabits Europe, Asia and America; 15 inches long; frequents lakes and still rivers, and forms a floating nest among the rushes; lays numerous dirty-white eggs, sprinkled with minute deep rusty spots; the young when just hatched are very deformed; runs along the water, swims and dives dexterously; feeds on small fish, aquatic insects and seeds; in winter time often repairs to the sea.

Bill yellowish-white; front, except in pairing time, white; legs yellowish-green; outer edge of the wings white.

**Aterrima.* Front white; bracelets red; body blackish. *Greater C.*
Inhabits with the last, from which it differs in being larger and of a deeper black.

Americana Cinereous; front, chin and line in the middle of the belly white; legs blue-black. *Cinereous C.*

Inhabits

Inhabits *North America* ; less than *F. atra*.

Bill greenish ; *membrane* between the toes narrow.

Mexicana, Purple ; front and bill red ; back, wings and rump greenish. *Mexican C.*

Inhabits *New Spain* ; size of *P. aterrima*.

Bill tipped with yellow ; *back*, *rump* and *wing-coverts* varied with blue and tawny.

Cristata, Blue-black ; naked front and crown red ; caruncle red, bifid, erect ; bracelets red, green and yellow.

Crested C.

Inhabits *Madagascar* and *China* ; 18 inches long.

Bill whitish, with a red base ; *legs* dusky.

60. VAGINALIS. *Bill* strong, thick, conic-convex, compressed ; the upper mandible covered above with a moveable horny sheath : *nostrils* small, placed before the sheath : *tongue* above round, beneath flattened, pointed at the tip ; *face* naked, papillous : *wings* with an obtuse excrescence under the flexure : *legs* strong, 4-toed, naked a little above the knees ; toes rough beneath ; claws grooved.

Aba.

V.

White Sheathbill.

Inhabits *New Zealand* and *South Sea Islands* ; 15—18 inches long ; feeds on shell-fish and carcases.

Bill black at the base ; *sheath* a horny yellow or black plate, nearly covering the nostrils ; *face* naked, in the adult bird beset with white or pale orange warts ; above the eyes a brown or blackish wart, larger than the rest ; *feathers* white ; excrescence on the wings blackish ; *legs* 2 inches long, generally reddish.

61. PARRA. *Bill* tapering, somewhat obtuse: *nostrils* oval, in the middle of the bill: *front* covered with lobate caruncles: *wings* spinous. *Jacana*.

Dominica. Claws moderate; legs yellow. *St. Domingo* ♀.

Inhabits the warm parts of *America*; 11 inches long.

Bill yellow; *caruncle* lax, pale yellow; *head* and *body* above pale yellow, beneath ochre, inclining to rosy.

Ludovici-ana. Bill and *caruncle* tawny; crown black; *body* above grey-brown, beneath ochre. *Louisiana* ♀.

Inhabits *Louisiana*; 11 inches long.

Quill-feathers black, mixed with a little grey; *tail* pale yellow, tip with black; *legs* red; *claws* black.

Cayennensis. Legs reddish; hind-head brown, with a blackish crest. *Cayenne* ♀.

Inhabits *Cayenne*; feeds on insects; 8½ inches long.

Bill red, tip with black; *front* and *chin* black; middle of the *crown* cinereous; *breast* with a broad, black band; *belly* and *vent* white; *back* greenish-purple; *wings* white without; *tail* from the base to the middle white, the rest black, the tip edged with white.

Goensis. Caruncle red; legs yellow; head, neck, wings and middle of the tail black; *body* beneath white. *Goa* ♀.

Inhabits near *Goa*; 13 inches long.

Bill dusky; from the hind-part of the eye a black streak runs through the sides of the neck as far as the breast; *back* and *wing-coverts* reddish-brown, the greater ones white; *tail* white at the base, and tip with brown.

Senegalla. Claws moderate; legs red. *Senegal* ♀.

Inhabits near the *Senegal*; 12 inches long.

Bill yellowish-green, tip with black; *front* white; *caruncle* lax, pale yellow; *chin* and *throat* black; lower part of the *belly*, *tail-coverts* and greater *wing-coverts* whitish; *quill-feathers* black, tip with white; *spur* on the wings black; *tail* from the base to the middle whitish, the rest black, tip with reddish; rest of the *body* and *head* grey-brown.

Chilensis.

Chilensis. Claws moderate; legs brown; hind-head subcrested.

Chilese ♂.

Inhabits *Chili*; size of a jay, but has longer legs; feeds on worms and insects; is noisy and defends itself by the spurs on the wings; builds in the grass, and lays 4 tawny eggs, speckled with black.

Bill conic, 2 inches long, a little curved at the tip; *irids* yellowish; *nostrils* pervious, square; *caruncle* 2-lobed, red; *neck*, *back* and fore-part of the *wings* violet; *throat* and *breast* black; *wings* and short *tail* brown; *spurs* on the wings yellowish, conic, bony, $\frac{1}{2}$ an inch long.

Jacana. Hind-claws very long; legs greenish.

Chestnut ♂.

Inhabits watery places of *South America*; 10 inches long; is very noisy, continually making a shrill cry.

Bill tawny; *body* chestnut-purple; *head* and *neck* beneath violet-black; *quill-feathers* olive-green, edged at the tip with brown; *tail-feathers* at the tip black-violet, 2 middle ones varied with bay and brown; *spurs* on the wings strong, yellow; *caruncle* orange, 2-parted, hanging each side the head.

Nigra.

Hind-claws very long; legs cinereous; head, neck, tail and body above black.

Black ♂.

Inhabits *Brazil*; size of the last.

Bill saffron; *front* rufous; *breast*, *belly* and *vent* brown; *quill-feathers* green, tipped with brown; *wing-spurs* yellow.

*Brazilien-
sis.*

Hind-claws very long; body greenish-black. *Brazilian* ♂.

Inhabits *Brazil* and *Guiana*; size and manners of *P. jacana*; is gregarious, and feeds on fish and insects; *wing-spurs* yellow.

Viridis.

Hind-claws long, yellow; legs yellowish-green; body blackish-green.

Green ♂.

Inhabits *Brazil*; size of a pigeon.

Bill part red, part yellow; *front* red; *head*, *neck* and *breast* glossy-violet; *toes* very long.

Variabilis. Hind-claws long; legs blueish.

Variable ♂.

Inhabits *Cayenne* and *Brazil*; 9 inches long.

Bill tawny; *caruncle* red; *crown* brown, with dusky spots; *eyebrows* white; *ocular line* black; *hind-head* brown; *temples*

ples and body beneath white ; wing-spur yellow ; scapulars brownish ; lesser wing-coverts purplish-bay, middle brown, greater black ; 4 quill-feathers next the body brown ; the rest green, the tips edged with black.

Luzonien- Beneath white ; toes long ; legs black. *Luzonian* ♂.
sis. Inhabits marshy and maritime parts of the *Manilla Islands*.

Bill pale green ; crown brown ; line above the eyes black, and yellow after it reaches behind the eyes ; back and spot on the breast brown ; lesser wing-coverts white, the rest brownish, with transverse black lines ; secondary quill-feathers white, the 3 primary long, naked and rhombic at the tip ; sides of the neck with a cinereous band.

Africana. Pale cinnamon ; toes long ; legs greenish-black. *African* ♂.

Inhabits *Africa* ; $9\frac{1}{2}$ inches long.

Bill dusky, pale horn-colour at the tip ; chin white ; breast pale yellow, spotted and lined with black ; ocular band reaching as far as the back and greater quill-feathers black ; hind-claw $1\frac{1}{2}$ inches long.

Sinenfis. Toes long ; legs greenish ; body claret-colour. *China* ♂.
Inhabits *China* : 21 inches long.

Bill dusky ; crown, front, chin, throat and breast pale reddish-ash ; hind-head black ; neck above yellow, surrounded each side with a black line ; wing-coverts white ; wings black ; tail long.

Chavaria. Toes long ; legs tawny ; hind-head crested. *Faithful* ♂.
Inhabits the rivers and inundated places near *Carthagera* in *America* ; feeds on herbs ; its gait is slow and it cannot run unless assisted by the wings, but flies easily and swiftly. When the skin is touched a crackling is felt ; voice clear and loud. The natives keep one of these tame to wander with the poultry and defend them against birds of prey, which it does by means of the spurs on its wings. It never deserts the charge committed to its care, but brings them home at night. It will readily suffer itself to be handled by grown up persons, but not children ; is about the size of a cock, and stands a foot and a half from the ground.
Bill dirty-white, upper mandible like that of the dung-hill cock ; on both sides at the base of the bill is a red membrane extending to the temples, in the middle of which are the eyes ; irides brown ; hind-head with about 12 blackish feathers,

feathers, 3 inches long, forming a pendent crest ; rest of the neck covered with thick black down ; body brown ; wings and tail blackish ; wing-spurs 2 or 3, half an inch long ; belly light black ; thighs half bare ; toes so long as to entangle each other in walking.

Indica. Blackish-blue ; back and wings brown ; eyebrows white ; a red spot at the gape of the mouth. *Indian F.*
Inhabits marshes of *India*, and builds a floating nest.
Bill yellow, the base above blueish ; *legs* yellowish-brown.

62. RALLUS. *Bill* thickish at the base, attenuated on the back towards the tip, compressed, a little incurved, pointed : tongue rough at the tip : body compressed : tail short : feet 4-toed cleft.
Rail.

**Crex.* Wings reddish-rusty. *Crake. Land R.*

Inhabits sedgey places of *Europe* and *Asia* : 9½ inches long ; migrates ; runs swiftly along the grass, but flies slowly, with its long feet hanging down ; feeds on seeds and insects ; and grows prodigiously fat ; its note is harsh, resembling the words *crek, crek*, whence its name ; lays 12—16 eggs in the dry grass, of a dirty-white colour, with a few yellow spots ; flesh very excellent.

Bill and *legs* brown-ash ; *irids* hazel ; feathers of the body reddish-brown, the upper ones black in the middle ; chin very pale ; belly whitish-yellow.

2. Rufous-brown, beneath paler ; wings and tail deeper ; chin and vent white ; legs dusky-red.

Inhabits *Jamaica*. *Bill* larger, black.

3. Reddish-grey, beneath and wing-coverts rusty-brown.

Inhabits *China*. *Legs* dusky.

Aquaticus. Wings grey, spotted with brown ; flanks spotted with white ; bill orange beneath. *Brook-ouzel. Water R.*

Inhabits watery places in *Europe* and *Asia* ; 12 inches long ; hides itself among the sedges ; runs and swims with celerity, but flies heavily with its legs hanging down ; eggs yellowish, with dusky-brown spots.

Bill black, reddish at the base ; *irids* red ; feathers of the upper

per part of the *body* olive-brown and black in the middle, the lower ones cinereous, those of the lower part of the *belly* and *vent* edged with rufous; *quill-feathers* dusky; lower *tail-coverts* white; *tail-feathers* short, black, the 2 middle ones at the tip, the rest edged with ferruginous; *legs* dusky-red.

• *Porzana*. Two middle tail-feathers edged with white; bill and legs pale olive. *Spotted Gallinule*.

Inhabits *Europe* and *North America*; frequents the sides of small streams, hiding itself among the bushes; 9 inches long. *Bill* greenish-yellow; *irids* hazel; *head* brown, spotted with black; line over the *eyes* pale grey; *neck* above and *flanks* brown-ash, with small white spots; *back* and *wing-coverts* olive with black stripes and near the edges of the feathers with white spots, the greater with white stripes and lines; *cheeks*, *chin* and *throat* pale grey, with brown spots; *breast* brown, with white spots; *belly* varied with cinereous and white; *vent* ochre-yellow.

Crepitans. Bill and legs brown; body above olive, the feathers ashy at the edges; chin white; throat and breast yellowish-brown. *Clapper R.*

Inhabits *New York*; 14—16 inches long. *Cheeks* cinereous.

Fuscus. Brown; vent waved with white; legs yellow. *Brown R.*
Inhabits the *Philippine Isles*; 7 inches long.
Body beneath light chestnut, on the *belly* inclining to grey; tail barred with black and white.

Striatus. Blackish, waved with white; chin reddish. *Streaked R.*
Inhabits the *Philippine Isles*; 8½ inches long; is perhaps merely a variety of *R. philippensis*.
Bill horn-colour; *crown* varied with dusky and bay; *nape* bay; *neck*, *back*, *shoulders* and *rump* brown, with whitish spots; *wing-coverts* with a few transverse whitish streaks; *chin* reddish-white; *cheeks*, *throat*, *breast* and upper part of the *belly* cinereous, with a tinge of olive, lower part barred with dusky and white; *quill-feathers* brown, the outer bands reddish-white, inner white; *tail* brown, with white lines; *legs* grey-brown.

Torquatus. Brown, beneath waved with white; beneath the eyes white line. *Banded R.*

Inhabits

Inhabits the *Philippine Isles* ; 12 inches long.

Bill and *legs* grey-brown ; *cheeks* and *chin* black ; *body* beneath transversely streaked with black and white ; *collar* bay ; *quill-feathers* on the outer edge paler, bands within on the first 3 white, 6 next reddish-bay.

Philippensis. Brown, beneath barred with grey ; eyebrows white ; neck beneath reddish. *Philippine R.*

2. Red-brown, spotted and streaked with black and white ; head chestnut ; body beneath and eyebrows cinereous. Inhabits *Otaheite*.

3. Brown, spotted and streaked with white, beneath white ; eyebrows grey ; tail barred with brown and white. Inhabits *Tongatapu*.

4. Above brown, beneath ashy ; back and wings lined with white spots ; belly white, with blackish bars.

Inhabits the *Philippine Isles* : 11 inches long.

Bill grey, 4) red, tip with white ; *legs* grey, 4) greenish ; *body* above dusky, the feathers edged with reddish-grey ; *chin* dirty-white ; *throat* reddish-grey, with pale brownish, transverse bars ; *wings* with white and bay spots ; *tail* dusky, edged with reddish-grey, and except the 2 middle feathers, spotted within with bay.

Ecaudatus Olive ; beneath blueish ; body transversely waved with black ; eyebrows white. *Taillefs R.*

Inhabits *Otaheite*. *Cim. Phys.* 90.

Bill blackish ; upper part of the *head* pale brown ; *orbits* black ; over the *eyes* on each side the *head* a broad white line ; *body* above deep glossy olive, with a tinge of olive on the *shoulders* ; *vent* pale yellow ; *tail* so short as to be scarcely perceptible, the *coverts* pale blue.

Carolinus. Brown ; frontlet black ; breast lead-colour ; bill yellow ; legs greenish. *Soree*.

Inhabits *Virginia* ; 7—8 inches long ; flesh excellent.

Irids red ; *crown* and *body* above brown, with black spots ; *face* and *chin* black ; rest of the *neck*, *temples* and *breast* blueish-ash ; *belly* and outer edge of the *wings* white ; *wings* and *tail* brown.

Phaniscus. Black ; beneath white ; bill and legs greenish ; front naked, flesh-colour ; vent and tail rusty-red.

Red-tailed R.

Inhabits

Inhabits Ceylon ; 9 inches long.

Bill and legs with a red tinge ; crown and cheeks pure white ; quill-feathers spotted with blue.

2. Above cinereous ; beneath white ; belly and vent red.

Inhabits China ; 15 inches long.

3. Front white ; vent red ; legs yellow.

Inhabits Madagascar ; 16 inches long.

Virginia-nus. Brown ; without spots ; bill and legs brown. *Virginian R.*
Inhabits Virginia ; probably a variety of *R. aquaticus*.

Lower mandible reddish at the base ; irids red ; crown dusky ; temples cinereous ; eyebrows, chin and flexure of the wings white ; neck, back and tail streaked with black ; throat and breast reddish-tawny ; lower part of the belly with dusky and white lines ; vent varied with white, tawny and black ; wing-coverts chestnut ; quill-feathers dusky.

Ferrugine-us. Above dusky, beneath cinereous ; neck and breast ferruginous ; bill pale ; legs yellow. *Red-breasted R.*

Length 9 inches ; eyebrows pale ; flanks with transverse, narrow, white lines.

Capensis. Ferruginous ; lower part of the breast, belly, vent, wings and tail waved black and white ; bill black ; legs blood-red. *Cape R.*

Inhabits the Cape and Ceylon ; size of *R. crex*.

Two middle tail-feathers ferruginous.

Caruleus. Bay, beneath blueish ; bill and legs red ; vent white ; belly with transverse black streaks. *Blue-necked R.*
Inhabits the Cape of Good Hope ; $7\frac{1}{2}$ inches long.

Zeylanicus Head dusky ; body above ferruginous, beneath reddish, waved with brown ; first quill-feathers black ; bill and legs red. *Ceylon R.*

Inhabits Ceylon : larger than *R. aquaticus*. Tail long.

Australis. Rusty-ash ; wings and tail deep brown ; feathers barred with black. *Troglodyte R.*

Inhabits New Zealand ; 17 inches long.

Bill and legs yellowish ; body above rusty-brown, beneath rusty ash ; quill and tail-feathers waved with black.

Pacificus. Black, speckled with white; wings barred; body beneath whitish; head brown; breast blueish-ash. *Pacific R.*
Inhabits *Otaheite* and neighbouring isles.
Bill red; legs flesh-colour; chin and eyebrows white; nape rusty.

Tabuenfis. Brownish-black, beneath dusky; bill black; legs bay. *Tabuan R.*
2. Vent streaked with black and white; legs red.
Inhabits *South Sea Islands*: $6\frac{1}{2}$ inches long.
Eyelids and irids red.

Niger. Black; bill red at the base, brown at the tip; legs brown or red. *Black R.*
Inhabits *Africa*; 9 inches long.

Sandwicen-fis. Pale ferruginous; bill dusky-ash; legs dull flesh-colour. *Sandwich R.*
2. Bill and legs yellowish.
Inhabits *Sandwich*, 2) *Tanna Isles*: small.

Taitienfis. Cinereous; body above red-brown; bill, rounded tail and claws black. *Otaheite R.*
Inhabits *Otaheite* and *Friendly Isles*; 6 inches long.
Quill-feathers dusky, edged with white; legs yellow.

Obscurus. Brown streaked with black, beneath rusty-brown; bill black; legs red-brown. *Dusky R.*
Inhabits *Sandwich Islands*; 6 inches long.
Edge of the mandibles yellowish.

Longirof-tris. Above cinereous, spotted with brown, beneath rusty-white; flanks transversely waved with white; bill long, ferruginous. *Long-billed R.*
Inhabits *Cayenne*: 9—12 inches long.
Bill tip with brown; legs yellowish; chin whitish.

Variegatus. Streaked and spotted with white and black; hind-head dusky; bill yellowish; chin white; legs yellow. *Variegated R.*
Inhabits

Inhabits Cayenne: 11 inches long.

Wings brown, the coverts spotted with white; tail-feathers some of the middle ones edged with white.

Cayennen- Crown rufous; body above olive-brown, beneath rufous; *fis.* ocular band blackish; quill-feathers black; bill brown; legs bay. *Cayenne R.*

2. Crown bay; chin and vent reddish-white.

Inhabits Cayenne and Guiana; 8 inches long; in the evening is noisy and gregarious, by day solitary; builds in the forked branch of a shrub, near the ground. Vent pale.

Jamaicen- Above reddish-brown, with black streaks; bill and chin *R.* black; throat and breast blueish-ash; belly with white and brown lines. *Jamaica R.*

Inhabits Jamaica: 6 inches long.

Bill reddish at the base; wing-coverts brown, spotted with white; quill-feathers reddish-brown, with black lines, the secondaries and tail-feathers spotted with white; legs brown.

Minutus. Brown, beneath yellowish; eyebrows, streaks on the back and spots on the wing-coverts white; tail barred black and white. *Little R.*

2. Middle of the neck above rufous; belly and vent waved with black and white.

Inhabits Cayenne and Jamaica; 5 inches long.

Bill brown; wing-coverts black; chin whitish; legs yellow.

Puffillus. Striped with ferruginous and black; body beneath black, with narrow white bands; throat and breast blueish. *Dwarf R.*

Inhabits near the salt lakes of Dauria: size of a lark.

Face, neck beneath and middle of the breast longitudinally blueish; middle of the chin whitish; longitudinal band through the eyes pale rusty; back with scattered, white, longitudinal lines; legs greenish.

Barbaricus Ferruginous; bill black; wings spotted with white; rump streaked above with white and black, beneath with white, legs dusky-brown. *Barbary R.*

Inhabits Barbary; size of a plover.

Dubius. Striped with brown and ferruginous; belly white; flanks barred with brown and rusty-ash; first quill-feathers without, longitudinally white. *Doubtful R.*
 Inhabits *Posegan*; size of the common gallinule.
 Face pale rusty; chin dirty-white, surrounded with a broad, brown collar; sides brown; bill and legs greenish-black.

63. PSOPHIA. Bill cylindrical, conic, convex, somewhat pointed, the upper mandible longer; nostrils oval, pervious: tongue cartilagenous, flat, fringed at the tip: feet 4-toed, cleft.

Trumpeter.

Crepitans. Black; back grey; breast shining blue-green; orbits naked, red. *Gold-breasted T.*
 Inhabits *Brasil* and *Guiana*; 20 inches long; emits from the lungs a harsh, uncommon noise, not unlike a child's trumpet, and follows people through the streets, persecuting them with its disagreeable cry, that it is sometimes difficult to get rid of them; stands on one leg, and sleeps with its neck drawn in between the shoulders; eggs blue-green.
 Bill yellowish-green; legs strong, tall, brownish-ash or green; beneath the back-toe a round protuberance, a little distance from the ground; tail very short; feathers of the head downy, of the lower part of the neck squamiform, of the shoulders ferruginous, lax, pendulous, silky; scapulars long, pendent.

Undulata. Crest of the hind-head short, whitish; of the breast, long, black, pendent. *Undulate T.*

Inhabits *Africa*; size of a goose.

Head brown, with black spots; body above brown, waved with black, beneath blueish-white; breast and belly with a few black spots; outer edge of the wings, bill and legs dusky-blue; each side the neck a black stripe, widening as it descends, and meeting on the lower part before.

ORDER V. GALLINÆ.

Bill convex, the upper mandible arched and dilated at the edge over the lower: nostrils half covered with a convex cartilaginous membrane: tail-feathers more than 12: feet cleft, but connected at the innermost joint.

64. OTIS. *Bill subconvex: nostrils oval, pervious: tongue bifid, pointed: feet formed for running, 3-toed, tall, naked above the thighs.* Bustard.

•*Tarda.* Wave-spotted with black and rufous, beneath whitish; head (of the male) and throat each side crested. Great B. Inhabits the open plains of Europe, Asia and Africa; feeds on grain and herbs; 4 feet long; weight often 25lbs.; is solitary and shy, except about the time of migration; flies heavily, but runs swiftly; is quick of sight and hearing; lays 2 pale olive-brown eggs, with darker spots, in a hole scraped in the ground.

Head and neck cinereous; quill-feathers black; tail with rufous and black lines, the feathers 18—20; pouch beginning under the tongue and reaching to the breast, long, capacious, able to hold near 7 quarts of water, probably for the purpose of supplying the hen whilst she sits, or the young before they can fly; legs dusky.

Arabs, Ears with erect crests, *Arabian B.*

Inhabits Asia and Africa; size of the last.

Bill pale horn-colour; irids brown; hind-head crested, black; front whitish; temples with a black spot; rest of the head, neck and body above rufous varied with black; throat cinereous, with black lines; breast and belly white; quill-feathers black, the secondaries spotted with white and black, those next the body with blackish lines; 2 middle tail-feathers blackish, the rest white, with a black band and a little spotted; legs brownish,

•*Tetrax.*

- *Tetrax.* Head and throat smooth. *Little B.*
 Inhabits southern *Europe* and *Asia*; rarely in *England*; 17 inches long; eggs shining-green; flesh blackish.
Bill grey-brown; *crown* black, with rufous bands; *temples* and *chin* reddish-white, with small dark spots; *neck* (of the male) black, with a white collar; *body* above varied with black, rufous and white, beneath and outer edge of the *wings* white.
- Afra.* Black; back cinereous; ears white. *White-eared B.*
 Inhabits the *Cape of Good Hope*: 22 inches long.
Male; *bill* and *legs* yellow; *crown* cinereous; *wings* with a large white blotch; *neck* behind and *thighs* above the knees with a white collar; *tail-feathers* 14.
Female cinereous; *thighs* and *belly* black.
- Bengalensis.* Black; area of the eyes brown; back, rump and tail shining brown. *Indian B.*
 Inhabits *Bengal*: 13 inches long.
Bill and *legs* whitish; *irids* hazel; *eyelids* cinereous; feathers of the *head*, *neck* and lower parts of the *trunk* lax, the uppermost ones black in the middle; a black stripe spotted with brown surrounding the *breast*; *tail* with black spots and lines; *wing-coverts* white; *quill-feathers* white without, tipped with cinereous, the *secondaries* white, with black spots and bands.
- Aurita.* Black; body above reticulate with brown; hind-head with 4 capillary feathers each side, rhombic at the tips; spot on the wings and ears white. *Passarage B.*
 Inhabits *India*: size of *O. tetrax*.
Bill whitish-brown; *legs* yellowish.
- Houbara.* Yellowish, spotted with brown; feathers of the neck long, whitish, with black shafts; quill-feathers black, with a white spot in the middle. *Ruffed B.*
 Inhabits *Africa* and *Arabia*: size of a capon.
- Rhaad.* Hind-head (of the male) with a black-blue crest; head black; body above and wings yellow, spotted with brown; belly white; tail brownish, with transverse black streaks.
 Inhabits *Arabia*. *Bill* and *legs* robust. *Indica.*

Indica. Above ferruginous, waved with white and black, beneath whitish; chin white; crown, area of the eyes and streak each side the head black. *White-chinned B.*
Inhabits *India*: size of the next. *Legs* brownish.

• *Oedipodus.* Grey; 2 first quill-feathers black, white in the middle; bill sharp-pointed; legs cinereous. *Thick-kneed B.*
Inhabits *Europe, Asia and Africa*: feeds in the night on worms, caterpillars and reptiles; breeds in holes, or among stones on the bare ground; eggs copper-colour, spotted with darker red; makes a piercing, shrill cry, and migrates.
Bill black; *legs* greenish-yellow; lower eyelid naked, pale yellow; above and beneath the eyes a yellow line; from the bill under the eyes to the ears a brown line; *knees* thick, as if swollen; *belly* and *thighs* white.

Chilensis. Head and throat smooth; body white; crown and tail-feathers cinereous; primary quill-feathers black.
Inhabits *Chili*: larger than *O. tarda*; is gregarious, and feeds on herbs; probably not of this genus.
Tail short, feathers 18; *toes* 4, very thick.

65. STRUTHIO. *Bill* subconic: *nostrils* oval: *wings* short, unfit for flight: *feet* formed for running.

Camelus. Feet 2-toed. *Black Ostrich.*
Inhabits *Africa* and *Asia*: the largest of all known birds; 8 feet long, and 7—9 feet high; feeds on almost every thing, and is so voracious that it will devour glass, stones, iron or whatever comes in its way; lays 40—50 eggs as large as the head of a child.
Head small; *bill* horn-colour; *irids* hazel; *eyelids* fringed; *head* and greater part of the *neck* bald, flesh-colour, with a few scattered hairs; feathers of the *body* lax, black, decomposite, the webs each side equal; *quill* and *tail-feathers* snowy, waved, long, here and there on the edge or tip black; *chest* callous; *wing-spurs* 2, one at the end of the wing and one on the spurious wing; *thighs* and *flanks* naked; *feet* strong, grey-brown; *toes* connected at the base, the outer very short, unarmed.

Casuarina

Casuarus. Feet 3-toed; helmet and dew-laps naked.

Emeu. Cassowary.

Inhabits within the *Torrid Zone* in *Asia*; $5\frac{1}{2}$ feet long; feeds on vegetables; is like the ostrich, unable to fly, but runs with great swiftness; is very fierce, and grunts like a swine; eggs greenish, with deeper spots.

Bill and *legs* black; *gape* very large; *irids* topaz; *eyelids* fringed; *nostrils* nearly at the tip of the bill; *eyes* large; *helmet* horny, reaching from the base of the bill to the middle of the crown, 3 inches high, the fore-part blackish, the hind-part yellow; *temples* and *neck* bald, wrinkled, reddish, with a blue or purple tinge, and covered with a few scattered hairs; each side the *neck* are 2 pendent caruncles, partly red, partly blue; *chest*, on which it rests, callous; *feathers* brownish-black, lax, generally 2 from one shaft, of the rump 14 inches long, pendulous; *tail* 0; *wings* consisting of about 5 naked dusky shafts; *claws* straight.

Nova Hol. Landia. Feet 3-toed; crown flat; shanks serrate behind.

New Holland Cassowary.

Inhabits *New Holland*; 7 feet 2 inches long.

Bill black; *head*, *neck* and *body* covered with bristly feathers, varied with brown and grey; *throat* nakedish, blueish; *feathers* of the body a little incurved at the tip; *wings* hardly visible; *legs* brown.

Rhea. Feet 3-toed, and a round callus behind. *American Ostrich.*

Inhabits *South America*; nearly as high as a man; feeds on fruits, flesh and flies; defends itself with its feet, and calls its young by a kind of hiss.

Head small, round, feathered; *bill* short; *eyes* black; *eyelids* fringed; *neck* $2\frac{1}{2}$ feet long; *wings* unfit for flight; *back* and *wing-coverts* black-ash, rest of the body whitish, sometimes black or white; *tail* 0; *feathers* of the rump long; *legs* as long as the neck.

66. DIDUS. *Bill* narrowed in the middle, with 2 transverse wrinkles; each mandible bent in at the tip: *nostrils* oblique, near the edge of the middle of the bill: *face* naked beyond the eyes: *legs* short, thick; *feet* cleft: *wings* unfit for flight: *tail* o. *Dodo.*

Ineptus. Black waved with whitish; head hooded; feet 4-toed. *Hooded D.*

Inhabits the isles of *France* and *Bourbon*; 3 feet long. *Bill* strong, large, blueish, with a red spot, the upper mandible yellowish at the tip, the lower bulging near the tip; *gape* very large; *irids* whitish; *plumage* soft; *belly* whitish; head large, black, as if covered with a cap; feathers of the *rump* curled, inclining to yellow; *legs* yellowish; *claws* o.

Scutarius. Varied with grey and brown; feet 4-toed. *Solitary D.*

Inhabits the *Island Rodrigue*; size of a turkey. *Eyes* black; spurious wings terminating in a round protuberance. *Female* with a white protuberance each side the breast, resembling a teat.

Nazarenus Black, downy; feet 3-toed. *Nazaren D.*

Inhabits the *Isle of France*; larger than a swan; builds on the ground with leaves and dry grass, and lays 1 white egg. *Bill* large; feathers of the *rump* erect, curled, on the back downy; *legs* long, scaly.

67. PAVO. *Bill* convex, robust; *head* covered with revolute feathers: *nostrils* large: feathers of the *rump* long, broad, expansile, and covered with eye-like spots. *Peacock.*

Cristatus. Head with a compressed crest; spurs solitary. *Crested P.*

2. Cheeks, throat, belly and wing-coverts white.

3. Body entirely white.

Inhabits *Asia* and *Africa*; and is domesticated every where; 3 feet 8 inches long; sleeps on the highest places, and utters a loud and harsh cry; is proud and vindictive, and feeds chiefly on grain and insects; lays 5—6 eggs in some very private place, which are grey-white; the young do not attain all their elegance till the third year.

Bill and *legs* brown; *irids* yellow; *crest* gold-green, of 24 feathers, barbed at the tip and with white shafts; line above and beneath the *eyes* white; *head*, *neck*, *breast*, *back* and *rump* green-gold; *feathers* of the *rump*; usually called the tail-feathers, sometimes 5 feet long; *tail-feathers* 18, grey-brown, 1½ feet long; *scapulars* and *lesser wing-coverts* reddish-brown, varied with black, middle ones blue, with a gloss of green-gold, greater and spurious wings rufous; *quill-feathers* rufous, some of them varied with rufous, blackish and green; *belly* and *vent* greenish-black; *thighs* yellowish.

Female; *crest* shorter; *spur* 0; feathers of the *rump* not so long or elegant; *irids* lead-colour; *bill* and fringe on the *breast* white; *neck* green; rest of the *body* and *wings* brown-ash.

Bicalcaratus. Brown; head subcrested; spurs 2.

Iris P.

Inhabits *China*; larger than a pheasant.

Bill blackish, the upper mandible from the nostrils to the tip red; *irids* yellow; *crown* black; *face* naked; *temples* white; *neck* shining brown, with black lines; upper part of the *back*, *shoulders* and *wing-coverts* brown, with yellowish stripes, the feathers near the tip with a large purple-gold spot; lower part of the *back* and *rump* spotted with white; *body* beneath brown, with transverse black streaks; *quill-feathers* dusky; *legs* brown.

Tibetanus. Cinereous streaked with blackish; head subcrested; spurs 2. *Thibet P.*

Inhabits *Thibet*; 25 $\frac{1}{2}$ inches long.

Bill cinereous; irids yellow; wing-coverts, back and rump grey, with small white spots, besides which the coverts have shining-blue spots; quill-feathers with 2 shining-blue dots; legs grey; claws blackish.

Muticus. Head with a subulate crest; spurs 0. *Japan P.*

Inhabits *Japan*; size of *P. cristatus*.

Bill large; legs cinereous; area of the eyes red; irids yellow; body blue, mixed with green; head and neck greenish, with blue spots and a white streak down the middle; belly, wing-coverts, secondary quill-feathers and thighs cinereous, with black spots, the belly with white streaks; primary quill-feathers green, with transverse black lines and yellowish towards the tip which is black; feathers of the rump bay with white shafts.

Female; belly black.

68. MELEAGRIS. Bill conic, incurvate: head covered with spongy caruncles: chin with a longitudinal membranaceous caruncle: tail broad, expansile: legs spurred. *Turkey.*

Gallinago. Front and chin carunculate; breast (of the male) tufted.

Inhabits *America*; above 3 $\frac{1}{2}$ feet long; is domesticated every where, and varies much in its colours; in a wild state lives in woods and feeds on nuts, acorns and various insects; roosts on the highest trees; is very irascible and impatient of any thing red; the cock struts with an inflated breast, expanded tail, red face and relaxed frontal caruncle, and makes a singular inward noise, which when it is uttered shakes the whole body; eggs numerous, white, with reddish or yellow spots; tail-feathers 18.

Female without a spur.

Satyra. Head with 2 horns; body red, with eyelike spots.

Horned T.

Inhabits *India*; something less than the last.

Bill brown; nostrils, front and area of the eyes covered with black

black hair-like feathers; crown red; horns callous, blue, bent back; caruncle of the chin dilatable, blue, varied with rufous; legs whitish, spurred; tail-feathers 20.

Female; head covered with feathers, without horns or gular caruncle; feathers of the head and upper part of the neck, black-blue, long, decumbent; rest of the body as in the male, red, with eye-like spots; spurs more obtuse.

69. PENELOPE. Bill naked at the base: head covered with feathers: chin naked: tail with 12 feathers: legs without spurs.

Cristata. Head with an erect crest; temples violet. *Guen.*

Inhabits Brazil and Guiana; 2 feet 6 inches long.

Bill black; irids orange; nostrils reaching from the middle of the bill to the front; orbits violet; caruncle on the chin compressed, red, covered with a few hairs; crest oblong; body black-green; back brown; neck, breast and belly spotted with white; legs red.

Cumanensis. Blackish; crest and first quill-feathers white. *Tactu.*

Inhabits Cayenne and Guiana; size of a hen-turkey; erects the crest and spreads its tail; builds on the ground or in low trees.

Bill black; crest long, pointed; irids brownish; orbits and chin naked, blueish; body beneath speckled with white; tail long, even; legs red.

Pipile. Caruncle on the chin blue; belly black; back brown, spotted with black. *Piping Curassow.*

Inhabits with the last. Voice weak, piping.

Head varied with black and white; crest short; orbits white; neck and breast black; back and wings black-brown; wing-coverts and first quill-feathers white; legs red.

Marail. Greenish-black; naked orbits and legs red; throat nakedish, speckled with white.

Inhabits in flocks the woods of Guiana; roosts on trees whose fruit it feeds upon; emits a disagreeably harsh cry.

Bill and irids blackish; chin and throat covered with a few feathers; head crested, which is erected when the bird is irritated; wings short; tail long, even, often erected and expanded.

70. CRAX. *Bill* strong, thick, the base of each mandible covered with a cere; *nostrils* in the middle of the cere; feathers covering the *head* revolute; *tail* large, straight, expansile.

Curassow.

Alector. Cere yellow; body black; belly white. *Crested C.*

Male. 2. Cere red; belly brown.

3. Cere red; belly brown; tail tip with white.

4. Crest white tip with black; neck barred with white and black; thighs brown; vent white.

Inhabits the mountainous woods of *South America*; 3 feet long; feeds on fruits and roosts in trees.

Bill black or horny; cere reaching from the middle of the bill behind the eyes; crest erect, black, 3 inches long; tail black, roundish, 11 inches long; feathers 14; spurs 0.

Alector. Red; head blueish; crest white, tip with black.

Female. 2. Neck annulate, with white and black; belly white; tail brown.

3. Body barred with red-brown and yellowish.

4. Tail with 9 yellow bands edged with black.

Bill cinereous; irids red; legs brown.

Globicera. Yellow; gibbosity of the nostrils globular; body blackish-blue; lower part of the belly white. *Globose C.*

Inhabits *Guiana*; size of *C. alector*.

Bill yellow, tip with cinereous; gibbosity yellow, very hard; irids red; orbits white; crest black, tip with white; legs pale rusty.

Female; bill and legs cinereous; head and crown black; crest black, with a white band; some of the feathers of the neck tip with white; throat, breast, back and wings brown; upper part of the belly white, some of the feathers tip with black; vent yellowish-brown; tail black, with 4 transverse white bands.

Pauxi. Cere blue; gibbosity of the nostrils crested; body blackish; belly and tip of the tail white. *Cushew C.*

Inhabits

Inhabits *New Spain*; size of *C. alector*.

Bill red, of the female brown; *gibbosity* pyriform, blue, longer than the bill and placed between the nostrils; legs reddish. Female brown where the male is black.

Galeata. Crown with a horny cone; body black; vent white.

Galeated C.

Inhabits the *Island Curassow*; near as large as a turkey. Bill and legs red.

Veriferans. Brown; bill and breast blue; belly whitish. *Crying C.*

Inhabits the mountainous parts of *Mexico*; size of a common fowl; a very noisy and clamorous bird.

71. PHASIANUS. Bill short, strong: cheeks covered with a smooth, naked skin: legs generally with spurs. Pheasant.

Gallus. Comb on the crown and 2 wattles on the chin compressed; ears naked; tail compressed, erected; feathers of the neck linear, long, membranaceous at the tips.

Wild Cock.

2. Comb on the crown and 2 wattles on the chin compressed; ears naked; tail compressed, erected; feathers of the neck linear, long. *Common Cock.*

3. Crown with a thick downy crest. *Crested Cock.*

4. Feet 5-toed, 2 behind. *Darling Cock.*

5. All the feathers turned back. *Frizzled Cock.*

6. Rump and tail-feathers o. *Persian Cock.*

7. Legs very short. *Dwarf Cock.*

8. Shanks feathered, the feathers behind long. *Bantam Cock.*

9. Legs feathered down to the toes. *Rough-legged Cock.*

10. Variegated with beautiful colours. *Turkish Cock.*

11. Body twice as large. *Paduan Cock.*

12. Crest, wattles and chin black. *Negro Cock.*

13. Hen with the crown tuberos. *Crowned Hen.*

14. Crown horned. *Horned Cock.*

15. Feathers resembling hairs. *Silk Cock.*

Inhabits in a wild state *India*; 3 feet 4 inches long; is domesticated every where, and subject to innumerable varieties in colour and size; feeds on grains and worms, which it scrapes from

from the ground and shews the chicken; is very courageous, proud, watchful and falacious, and claps its wings before it sings or crows; has a piercing sight, and never fails to cry in a peculiar note at the sight of a bird of prey. The hen, if she have plenty of food, water, gravel and a warm nest will lay through the whole year, and after laying makes a loud clucking which is answered by all the hens within hearing; will not sit if she be immersed in cold water; is hurt by elder-berries, and subject to lice, which are destroyed by pepper.

Body, when wild, less than the common cock; *comb* large, indented, shining red; *temples* and *line* from the crest to the eyes naked, flesh-colour; behind the eyes a clay-colour spot, of the shape of a man's nail, and covered with short feathers; feathers of the rest of the *head* and *neck* long, narrow, grey at the base, black in the middle and tip with white; feathers of the upper part of the *body* greyish, with a white and a black streak; *breast* reddish; *greater wing-coverts* reddish-chestnut, with transverse black and white streaks; *tail-coverts* glossy-violet; middle *tail-feathers* long, falcate; *spur* large, curved.

Female without the comb and wattles; *head* and *neck* grey; *cheeks* and *chin* whitish; *body* more dusky and varied with brown, grey and rufous; *spur* small.

Variegated P. Black; front red; neck and back glossy-green; tail compressed, ascending, the coverts hanging down each side.

Variegated P.

Inhabits India? less than the common cock. Nat. Miscel. 353.

Caruncle includes the eyes and is continued upwards into a plain comb, and downwards into an obscurely divided wattle; feathers of the *neck* and upper part of the *back* disposed so as to resemble a kind of scales or shells; lesser *wing-coverts* black, lanceolate, deeply edged with bright orange-yellow; *tail-coverts* shed each side, long, narrow, pointed, black, the edges ochre; *bill* and *legs* yellowish.

Ignis. Black, with a steel-blue gloss, sides rufous; lower part of the back fiery-ferruginous; 2 middle tail-feathers yellowish-brown.

Fire-backed P.

Inhabits Java; size of a fowl. Staunton's China, pl. 13.

Motmot. Brown, beneath reddish; tail wedged, the lateral feathers rufous.

Motmot P.

Inhabits

Inhabits *Brazil* and *Guiana* : 18 inches long.

Bill reddish ; *head* brown, the feathers long, rufous ; *neck* and *body* above, *quill* and 2 middle *tail-feathers* olive-brown ; *breast* and *belly* rufous-brown ; *legs* blackish ; *claws* brown.

Parraka. Brown, beneath and crown tawny ; tail long, even.

Parraka P.

Inhabits the thick woods of *South America* ; 23 inches long ; at sun-rise makes a clamour like the cock.

Bill and *legs* obscurely rufous ; *eyes* brown ; *wings* short ; *tail-feathers* 12, long, pendulous, often erected.

Mexicanus Tawny-white ; tail long, shining green.

Courier P.

Inhabits *New Spain* ; 18 inches long ; slow in flight, but so swift on foot as to outrun the fleetest horses.

At the base of the *tail* a few white spots.

Impejanus Crested ; purple glossy-green, beneath black ; feathers of the neck with a changeable lustre of gold, copper and green ; tail entire, rufous.

Impeyan P.

Inhabits *India* ; larger than a common fowl.

Orbits naked, carunculate, greenish ; upper mandible much incurved ; feathers of the neck long, daggered ; *crest* 18 feathers, erect, rhombic at the point ; *tail* tip with brown ; feathers 14.

Female ; body brown-waved ; under the eyes a white band.

Cristatus. Above brown, beneath reddish-white ; vent rufous ; head crested ; orbits naked, red ; tail wedged, tip with yellow.

Crested P.

Inhabits *New Spain* ; 22 inches long ; frequents trees growing near water, and feeds on serpents, worms and insects.

Bill and unarmed *legs* black ; feathers of the *crest* whitish-brown, beneath black ; feathers from the hind-head to the lower part of the neck with a white streak down the middle ; *wing-coverts* at the tip and edge of the wings white ; *quill-feathers* rufous ; *tail* 10 inches long.

Africanus. Body blue-ash, beneath white ; head crested ; 2 middle tail-feathers at the tip and lateral ones entirely black.

African P.

Inhabits *Africa* : 19 inches long.

Bill yellow ; *crest* of long, brown feathers white at the sides ; feathers of the *breast* and *belly* white, with black shafts ; *tail* rounded, scarcely wedged.

**Colchicus.*

• *Celchicus*. Rufous; head blue; tail wedged; cheeks papillous.

Common P.

2. Collar white.

Ringed P.

3. White varied with rufous.

Variegated P.

4. White, with a few small black spots on the neck and rufous ones on the shoulders.

White P.

5. Above rufous varied with brown and whitish; tail-feathers black edged with white.

Pied P.

6. Orbits naked, red; rest of the head feathered.

Turkey P.

Inhabits *Africa* and *Asia*; 2—3 feet long; is domesticated every where; in breeding-time above the ears each side is a golden feathered tuft like horns.

Bill pale horn-colour; irids yellow; cheeks red, speckled with black, in the old birds wrinkled, pendulous; from the nostrils to beneath the eyes is a greenish-black feathered line; rest of the head and neck green-gold, with a gloss of violet and blue; lower part of the neck, breast, back and rump shining tawny; quill feathers brown, with ochre spots; belly and vent white; tail-feathers 18, with transverse black bars; legs dusky, armed with spurs.

Female less, varied with brown, grey, rufous and blackish; cheeks feathered; after she has done breeding puts on the appearance of the male.

Argus.

Pale yellow, spotted with black; face red; hind-head crested, blue.

Argus P.

Inhabits *Chinese Tartary*; size of a turkey.

Bill yellowish; orbits and whiskers black; front, chin and throat red; crested hind-head and nape blue; wings grey, with eye-like spots; tail wedged, the colour of the wings; 2 middle feathers 3 feet long, with large eye-spots at the shaft; feet armed.

Pictus.

Crest yellow; breast scarlet; secondary quill-feathers blue; tail wedged.

Painted P.

Inhabits *China*: 2 feet 9½ inches long.

Bill, irids and armed legs yellow; feathers of the crest silky, pendulous backwards; cheeks naked, flesh-colour; feathers of the hind-head tawny, with black lines, and beneath these green ones; back and rump yellow; upper tail-coverts long, narrow, scarlet; wing-coverts varied with bay and brown; scapulars blue; quill-feathers brown, with yellowish spots; tail-feathers varied bay and black, 23 inches long.

Female reddish-brown, beneath yellowish-brown; legs unarmed

Nyctemus

*Nycthemer-
tus.*

White; crest and belly black; tail wedged. *Pencilled P.*

Inhabits China; 2½ feet long.

Bill and irids yellow; temples naked, red; head and body beneath purplish-black, above white; 2 middle tail-feathers white, the rest with oblique, black streaks; legs red, armed.

Female brown, beneath white varied with brown and with transverse, black bands; legs unarmed.

Superbus.

Unarmed; rufous varied with green and blue; caruncles of the front rounded; wattles subulate. *Superb P.*

Inhabits China. Bill and body red.

Each side of the neck with long feathers turned back; crown green, the hind-part with a folding, blue crest; shoulders green, spotted with white; primary quill-feathers blue; tail long, wedged, the feathers varied with blue and red, coverts declined, of various mixed colours; legs yellow.

*Leucomela-
nos.*

Crested, black; feathers of the body edged with white.

Coloured P.

Inhabits India; 22 inches long.

Bill whitish; temples naked, red; crest on the hind-head long, decumbent; feathers of the body above with a narrow, beneath with a broader white edge; throat, breast and belly with longish, daggered feathers; legs armed.

72. NUMIDIA. Bill strong, short, the base covered with a carunculate cere receiving the nostrils; head horned, with a compressed coloured callus; tail short, bending down: body speckled. *Pintado. Guinea-hen.*

Meleagris. Caruncles at the gape double; gular fold o. *Guinea-hen.*

2. Breast white.

3. Body entirely white.

Inhabits Africa, and is domesticated in most parts of Europe: 22 inches long; makes a harsh unpleasant cry.

Bill reddish-horn-colour; head blue, the crown with a conic, compressed, blueish-red protuberance; upper part of the

Vol. I. — 3 M

neck

neck blueish-ash, almost naked, lower feathered, verging to violet; body black, with round white spots; legs grey-brown; gular caruncle of the male blueish, female red.

Mitrata. Caruncles at the gape double; gular fold longitudinal.

Mitred P.

Inhabits *Madagascar* and *Guiana*; size of the last.

Bill yellowish; conic protuberance on the crown and front red; upper part of the neck naked, blueish; feathers on the lower part transversely waved; body black, with larger white spots; legs blackish.

Cristata. Caruncle 0; each side the gape a longitudinal fold.

Crested P.

Inhabits *Africa*; less than the last.

Bill horn-colour; head and upper part of the neck with a few slender hairs, obscurely blue; throat blood-red; crest on the front black, turned back; body black, spotted with white; quill-feathers black-brown; tail rounded, waved with black-brown, feathers 14; legs blackish.

Egyptiaca Black, spotted with blueish; crown crested; head and neck rufous.

Egyptian P.

Bill reddish; legs blueish-black; head and neck with a few hairs; cheeks and caruncles each side the jaws blueish.

73. TETRAO. Near the eyes a spot which is either naked, or papillous, or rarely covered with feathers.

The birds of this genus follow the old one as soon as they are hatched, and often with pieces of the shell sticking about them; the bill is convex and strong; the flesh and eggs mostly delicious. *Grouse*, *Partridges* and *Quails* have a short, convex bill: *Grouse* inhabit frigid climates, and are by their warm cloathing defended against cold; nostrils small, hid in feathers; tongue pointed at the tip; legs strong, and tail long; *Partridges* and *Quails* are of less size; have a short tail; nostrils covered above with a prominent callous edge, and inhabit temperate and warm countries: *Tinamous* are pe-

cun-

culiar to *Guinea*: have a longer bill, blunt at the tip, the nostrils placed in the middle; gape very large; chin covered with a few feathers; tail very short; back-toe short, useless in running; claws concave beneath; the female larger than the male: *Quails* have a longer bill than partridges.

A. Spot over the eyes naked: legs downy. Grouse.

a. feet 4-toed.

**Urogallus* Tail rounded; armpits white.

Wood G.

Inhabits mountainous and woody parts of *Europe* and *Northern Asia*; 2 feet 9 inches long; feeds on juniper berries and the seeds and tops of pines; is solitary except in breeding time, when it is very inattentive to its safety and easily taken; sits on the tops of trees and calls the female with a loud, shrill voice; female lays 8—16 white eggs, spotted with yellow, on the dry ground; flesh eatable.

Bill horn-colour; spot above the eyes scarlet; irids hazel; nostrils covered with short feathers; feathers of the chin black, longer; head and neck cinereous, with fine transverse black lines; body above bay, with blackish lines; breast blackish-green; belly and vent black, varied with white; tail-feathers 18, each side spotted with white; legs robust, brown, the toes pectinate at the edge.

Female 26 inches long; bill dusky; chin red; body above with alternate red and black transverse lines; breast with a few white spots, the lower part orange; belly spotted with pale orange and black, the feathers tipped with white; shoulders black, the feathers edged with black and pale tawny, and tipped with white; tail rusty, barred with black and tipped with white.

Phasianus Tail wedged; head, neck and body above testaceous, barred with black.

Long-tailed G.

Inhabits *Hudson's Bay* and the uncultivated parts of *Virginia*; 17 inches long; feeds in winter on the buds of beech and larch, in summer on various berries; flesh brownish.

Between the bill and eyes a white spot; sides of the neck and wing-coverts with round, white spots; lateral tail-feathers tipped with white, the 2 middle ones much longer and marked with ocellate spots.

Male with the breast chestnut-brown.

**Tetrix*. Violet-black; tail forked; secondary quill-feathers white towards the base. *Black game. Black G.*

2. Varied with black and white; breast with a large shining black spot.

3. Dirty-white and pale waved-rusty; bill black; legs rusty.

4. Hybrid; tail forked, beneath spotted with white.

Inhabits mountainous and woody parts of *Europe*; 24 inches long; eggs yellowish, spotted with rusty-red; flesh good.

Bill black; body shining glaucous-black; wing-coverts black-brown; 4 first quill-feathers black, the rest white at the base; tail-feathers 16—18, black; legs black-brown; toes pectinate. Female less.

Nemefianus.

Tail rufous, spotted and tipped with black; body varied with black and rufous. *Nemefian G.*

Size of *T. tetrix*; first quill-feathers brown, the outer side varied with rufous spots, secondary tipped with white; lower part of the neck with transverse black spots.

Female; neck, cheeks and breast rufous without spots.

Betulinus.

Tail black, with transverse rufous spots; rump whitish, barred with black. *Birch G.*

Body varied with black and rufous; bill and legs black; breast cinereous; quill-feathers tipped with white; eyebrows not red.

Canadensis.

Tail-feathers black, tipped with tawny; near the eyes 2 white stripes, (male). *Spotted G.*

2. Tail entire; behind the ears and nostrils a white spot, (female).

Inhabits *Hudson's Bay*; 13—16 inches long.

Male; bill black; orbits naked, carunculate; body tawny, varied with cinereous, beneath white, with black lunules; neck beneath and breast black; middle toe pectinate.

Female; bill brown; body spotted with black, above red-brown, beneath whitish; tail brown, wave-banded with black and tipped with tawny; egg varied with black, yellow and white.

**Lagopus*.

Cinereous; toes downy; quill-feathers white; tail-feathers black, tipped with white, the middle ones white.

Ptarmigan.

Inhabits

Inhabits the alpine parts of *Europe* and *Siberia*; 14—15 inches long; is stupid, and burrows under the snow; feeds on insects, berries and tender shoots of trees; runs swiftly and is impatient of sun and wind; eggs pale rufous, with red-brown spots.

Body in summer cinereous varied with white and brown, in winter nearly all white, in each season the lateral tail-feathers are black tipped with white; legs and even toes covered with a thick wool like a hare's.

Orange, varied with black bands and white blotches; toes downy; tail-feathers black, tipped with white, the middle ones entirely white. *White G.*

Inhabits the woods of *Europe* and *Asia*; 16½ inches long; like the last grows white in winter; eggs powdered with black.

Bill black; *belly* and *legs* white; *claws* broad, flat.

Rupescris. Orange, with black bands and white blotches; toes downy; tail-feathers black, tipped with white; the middle ones entirely white; lores black. *Rock G.*

Inhabits *Hudson's Bay*; less than the last; does not frequent woods, but sits on the tops of rocks, and makes a cry like a man calling with a loud voice.

Lapponicus. Toes naked, scaly; back black, varied with rusty; neck ferruginous, spotted with black; breast and vent white. *Rehusak G.*

Inhabits the alpine parts of *Lapland*; size of a hen.

Female spotted with pale yellow; primary quill-feathers black; thighs white, with rusty spots; legs downy; eggs reddish, with large brown spots.

Cupido. Back of the neck with supplemental wings. *Pinnated G.*

Inhabits *North America*; less than a partridge; feeds chiefly on acorns; the male at sun-rise erects his neck-wings and sings for the space of half an hour.

Bill black; *irids* hazel; *body* tawny, waved with black and white; *head* crested; *neck-wings* each with 5 feathers not 8 inches long; greater quill-feathers blackish, spotted on the outside with rufous; *tail* beneath and band at the end black; *toes* yellow.

Female without the supplemental wings.

Umbellus.

Umbellus. Variegated with brown, rufous and black; tail-feathers barred with black and tipped with cinereous; scrag of the neck with a raised tuft, (male). *Ruffed G.*

2. Axillary feathers larger, black-azure, (female).

Inhabits North America; 15—20 inches long.

Head crested; tail near the tip with a broad, black band, the tip white-ash; middle-toe pectinate.

Female without crest or ruff.

Bonasia. Tail-feathers cinereous with black spots and a black band, except the 2 middle ones. *Hazel G.*

Inhabits the hazel woods of Europe; feeds on katkins; 14 inches long; when terrified erects the feathers of the crown.

Bill short, black; head subcrested; orbits wrinkled, red; feathers at the base of the upper mandible black; body above with transverse red streaks, varied with brown and cinereous ones; each side 3 white spots, one at the sides of the nostrils, another between the bill and eyes and the third behind the eyes; chin (of the male) surrounded with a white line; belly with black lunules; legs grey.

•*Scoticus.* Transversely streaked with rufous and blackish; 6 outer tail-feathers each side blackish. *Moorcock. Red G.*

Inhabits the heaths of Scotland and northern mountains of England and Wales; eggs reddish, with deeper spots.

Caruncle on the eyebrows lunate, scarlet; greater quill-feathers brown; tail-feathers 16, the 4 middle ones the colour of the back, the rest blackish.

Canus. Body hoary waved with black; bill and legs black.

Inhabits Sweden; resembles *T. bonasia*.

Feathers tipped with brown; wing-coverts brown, the outer ones with a whitish spot at the tip; vent whitish; tail when folded, above waved with white, brown and hoary, beneath brown at the sides, with a triangular white spot in the middle.

Alchata. Varied with olive, yellowish, black and rufous; belly white; 2 middle tail-feathers twice as long as the rest, subulate. *Pin-tailed G.*

Inhabits Southern Europe, Syria and Arabia; 13½ inches long.

Eyebrows and chin (of the male) black; semicircle on the breast.

broad, tawny; edged with black; first *quill-feathers* cinereous, the *coverts* ferruginous, edged with white; *tail* wedged, pale yellow, with brown bands and tip with white; *legs* cinereous, naked behind; *toes* pectinate.

Senegalus. Legs downy; body testaceous; 2 middle tail-feathers twice as long as the rest. *Senegal G.*

Inhabits *Senegal*. Sides of the head with a blueish band; lateral *quill-feathers* white; *legs* naked behind.

Namaqua. Above chestnut, beneath blackish; 2 middle tail-feathers longer subulate. *Namaqua G.*

Inhabits the *Cape of Good Hope*; 9 inches long.

Bill glaucous; head, neck and breast cinereous; upper part of the breast with a white lunate mark, beneath this a broader chestnut one, and from this to the thighs a third, black-cinereous; *legs* naked behind, with a small spur.

Female above waved with black, white and rufous, beneath transversely streaked with white and black; *legs* unarmed.

Indicus. Front white, the hind part surrounded with a black fillet; body above rufous-yellow, varied with black lunate marks. *Indian G.*

Inhabits *Coromandel*: size of *T. alchata*.

Bill yellowish; feathers of the hind-head reddish, with a black line down the middle; neck rufous-grey; breast chestnut; primary *quill-feathers* brownish-black, secondary grey, barred; belly grey, with transverse black bands; *legs* brown.

Arenarius. Collar, belly and vent black; tail-feathers barred with brown and grey, and tip with white, 2 middle ones tawnyish. *Sand G.*

Inhabits the fluctuating sands near the *Caspian Sea*: 19 inches long; eggs pale white.

Head ashy; chin pale yellow, with a black semicircle on the throat, the feathers truncate, shining; tail barred, the 2 middle feathers subulate at the tip; *legs* naked behind, with a small spur.

Female yellowish; head and neck spotted with black; back barred with black.

b. Feet 3-toed.

aradoxus Toes downy, connected nearly to the tip. *Heteroclitous G.*
Inhabits

Inhabits the southern deserts of *Tartary*; an ambiguous bird, between the bustard and grouse.

Bill slenderer than others of its tribe, upper mandible neither arched nor receiving the lower; *head* and *neck* hoary; *chin* tawnyish, with an orange spot each side the neck; *back* waved grey and black; *breast* pale reddish-ash; *belly*, *flanks* and *vent* black; *wings* long, pointed, beneath white, above dotted with black.

B. *Orbits granulated; legs naked.*

a. *Legs of the male armed with a spur.* Partridge.

Francolinus.

Belly and chin black; tail wedged.

Francoline P.

Inhabits *Europe*, *Asia* and *Africa*; 12½ inches long.

Eyebrows naked, not papillous, fringed with short hair; *body* above varied with blackish and yellowish-rufous, beneath black, spotted with white; *collar* pale chestnut; *legs* red.

Female, whole body mixed blackish and rusty-yellow.

Arragonicus.

Legs downy on the fore-part; quill-feathers, belly and thighs black.

Arragonian P.

Inhabits *Arragon*.

Body brown, varied with ferruginous; *breast* rufous, with a black band; *vent* white, spotted with black; *tail* wedged, the lateral feathers white at the outer tip.

Madagascarensis.

Belly black, with large rufous spots; chin white; 2 middle tail-feathers reddish, barred with black.

Pintado P.

Inhabits *Madagascar*; size of *A. rufus*.

Each side the *head* a double band; *hind-head* and 6 spots on the *breast* black; greater *quill-feathers* barred with white; *back* and *legs* reddish.

Rufus.

Bill and legs blood-red; chin white, surrounded with a black band, spotted with white.

Greek or red P.

Inhabits *Southern Europe* and the *Greek Islands*.

Feathers of the *sides* with a double black stripe; *tail-feathers* 14, cinereous, the 5 outer rufous for the last half.

*2. Feathers of the *sides* with a single black stripe; *tail-feathers* 16, the 5 outer each side rufous.

Red-legged P.

Inhabits sometimes the *Suffolk* and *Norfolk* coasts.

3. *Colla*

3. Collar chestnut, with white round spots; feathers of the sides with a single black stripe; tail-feathers cinereous, the middle ones transversely streaked with brown, the lateral ones for the last half orange.

Barbary P.

**Perdix*. Under the eyes a naked scarlet spot; tail ferruginous; breast brown; legs white. *Common P.*

2. Greyish-white.

3. Entirely white.

4. Collar white.

5. Body brown.

6. Chin and upper part of the throat tawny.

Inhabits *Europe* and *Asia*: 13 inches long; frequents corn fields and pastures; feeds on green corn, seeds and insects; lays 15—18 greenish-grey eggs; is extremely voracious.

Under the lower eyelid a naked, red, papillous area, reaching behind the eyes; face yellowish; cap and neck waved-ash; quill-feathers brown, with ferruginous bands; tail-feathers 18; lower part of the breast with 2 chestnut spots.

Damascenus. Under the eyes a naked scarlet spot; tail ferruginous; breast brown; legs yellow. *Damascus P.*

Inhabits *France*; resembles the last, but is much less; bill longer; perhaps is only a variety.

Montanus. Bill and legs red; head and upper part of the neck tawny; 7 outer tail-feathers pale chestnut.

Mountain P.

Inhabits mountainous parts of *Europe*; 10½ inches long.

Body pale chestnut; tail-feathers 20, the 6 middle ones chestnut-brown, tipped with grey.

Rubicollis. Body brown, spotted; vent white; orbits and chin naked, red. *Red-necked P.*

Inhabits *Africa*; 13 inches long.

Bill and legs red; above and beneath the eyes a white streak.

Petrofusus. Brown; bill, legs and irids red; breast with a ferruginous spot.

Inhabits mountains near the *Gambia*; less than *T. rufus*.

Perlatus. Legs and eyebrows rufous; bill blackish; chin white; body brown, spotted with whitish and reddish.

Pearled P.

Inhabits *China*: 12½ inches long.

Band through the eyes black, one beneath the eyes white and one on the lower jaw black; tail brown, with black tip and transverse bands.

Afer. Brown, with whitish streaks; eyebrows and neck beneath varied with white and black; wings and tail with transverse white lines.

African P.

Inhabits the *Cape of Good Hope*: 13 inches long.

Breast and sides variegated with ferruginous, chestnut, blackish and whitish.

Capensis. Legs red, with the rudiment of a second spur; body cinereous waved with grey.

Cape P.

Inhabits the *Cape of Good Hope*: 19 inches long.

Bill pale reddish; claws black.

Bicalcaratus. Legs 2-spurred; eyebrows black.

Senegal P.

Inhabits near the *Senegal*: 13 inches long.

Body varied with brown, mouse-colour and whitish; tail barred with brown and mouse-colour; spurs obtuse.

Zeylonicus. Legs 2-spurred; bill and naked orbits red; tail rounded, brown.

Ceylon P.

Inhabits *Ceylon*; size of a hen.

Male; head varied with black. Female with cinereous and black.

Spadiceus. Legs 2-spurred, red; bill yellow; body chestnut.

Brown African P.

Inhabits *Madagascar*: size of *T. perdix*.

Nudicollis. Legs 2-spurred and with the naked throat red.

Bare-necked P.

Body variegated with blackish and yellowish-rufous.

Gingicus. Bill black; rump and tail reddish-grey, varied with black; eyebrows white.

Gingi P.

Inhabits *Gingi* in *Coromandel*; less than *T. perdix*.

Tail-feathers with each a black spot; belly white, the feathers with

with a double longitudinal pale bay band; legs reddish-yellow.

Female; tail feathers with a black band; belly reddish; legs dirty-grey.

Pondiceri- mus. Bill black; 2 middle tail-feathers rufous, with numerous angular brown lines, and 4 ochre-yellow-bands, (male?) *Pondicherry P.*

Inhabits *Coromandel*; size of *T. perdix*.

Frontlet and *throat* yellowish; *nape* grey, with black bands; *neck* above and *back* rufous; *breast* reddish, waved with black; *belly* white, with black semicircles; *rump* grey, with whitish bands, each side edged with black; *tail-feathers* chestnut, barred within with black.

2. Brown barred with black; neck and breast white, with black spots; tail-feathers barred with black, (female?)

Orbits and *chin* yellow; *pectoral band* of black and white lines; *tail* with 10 oblique white bands; legs unarmed.

Nevius. Bill and legs reddish; body variegated with brown, yellowish and tawny. *Mexican P.*

Inhabits *New Spain*; 21 inches long.

Head and *neck* tawny, with grey and white spots; *crown*, *chin* and *flanks* with black spots; *spurious wings* grey, spotted with tawny and white, beneath cinereous.

Asiaticus. Variegated with reddish-yellow, brown and black, beneath whitish, with black stripes. *Asiatic P.*

Inhabits *Mahratta*; 6 inches long.

Bill short, obtuse, brown, lower mandible pale; *head* and *chin* yellow-brown; feathers of the *body* beneath with 2 black bands; *quill-feathers* yellowish-rufous, varied with brown; legs reddish.

b. Legs without a spur. Quail.

† 4-toed.

Ferrugine- us. Bill and legs brown; body beneath pale chestnut, above dirty-brown; feathers of the *nape* and *neck* above longer, pointed. *Hackled Q.*

3 N 2

Inhabits

Inhabits *China*; 12 inches long.

Feathers of the *neck* erect, collected in a tuft; *quill-feathers* brown, spotted at the edge with black; *tail* black-brown.

Javanicus Legs flesh-colour; front, spot on the hind-head and belly orange; back, breast and tail cinereous, varied with black. *Javan* ♀.

Inhabits *Java*.

Cheeks black, surrounded by an orange line; *vent* red, with a cinereous black band.

Viridis. Green; bill and legs reddish; wings chestnut, speckled with black. *Green* ♀.

Length 11½ inches; *bill* a little bent at the tip; *hind-toe* unarmed; *tail* and *vent* black.

Virginia-nus. Above and beneath the eyes a black band; crown with a tawny line. *Virginian* ♀.

Inhabits the woods of *America*; perches on trees; less than *T. perdix*.

Bill and *collar* black; *temples* and *chin* ochre; *crown*, *neck* *back* and *rump* reddish-brown, varied with black; *legs*, *tail* and *quill-feathers* brown, the latter edged with rufous.

Marilyn-dus. Eyebrows white; neck above dotted with black and white. *Maryland* ♀.

Inhabits *North America*; very much resembles the last.

Bill black; *head* and *body* above reddish-brown, with small black spots; *front* and *throat* white, terminating in a black lunule; *breast* and *belly* dirty-yellow, with black lunules; *legs* brown. *Female*; *chin* yellowish,

Kakelik. Bill, eyebrows and legs scarlet; breast cinereous; back waved white and cinereous.

Inhabits *Chiwa* and *Songoria*; size of a *Columba gutturosa*; is named from its note, which resembles the word *kakelik*.

Caspius. Cinereous, spotted with chestnut; nostrils, orbits and bald temples and legs pale yellow. *Caspian* ♀.

Inhabits near *Austrabat* in *Persia*.

Cambaiensis. Yellowish-rufous, with deeper waves; back-toe unarmed. *Guzurat* ♀.

Inhabits

Inhabits *India* in *Guzurat*; 6 inches long.

Bill strong, short, pale; *body* beneath pale; *legs* yellow.

Mexicanus *Bill* and *legs* blood-red; over the eyes a white line.

Louisiane ♀.

Inhabits *Louisiana* and *New Spain*; 8 inches long.

Feathers of the *head* black, tip with bay; *chin* white; *neck* above varied with bay, black and white; *body* above, *rump* and *wings* bay, waved with black, beneath whitish, with blackish streaks; 2 middle *tail-feathers* bay, with black lines, the rest cinereous.

Falklandi- Varied with brown spots and curved streaks, beneath
cus. white; *bill* lead-colour; *legs* brown; temples spotted with white.

Malouine ♀.

Inhabits *Falkland Islands*; size of *T. coturnix*.

Upper feathers of the *body* brownish, brown in the middle, and marked with 2—3 curved lines near the tip; *chin*, *throat* and *breast* yellowish-brown, varied with brown; *quill-feathers* black; *tail* brown, with paler bands.

Novæ His- *Bill* and *legs* black; crested head and neck varied with
pania. white and black; *body* and *quill-feathers* tawny, the latter tip with white.

Mexican ♀.

Inhabits *New Spain*; see *Phasianus cristatus*.

Californi- Lead-colour; crown with an upright crest; throat (of the
cus. male) black, edged with white; belly yellowish-brown, with black crescents.

Californian ♀.

Inhabits *California*; larger than the common quail.

Bill and *legs* dusky; upper *mandible* a little shorter than the lower; *body* dove-colour; *front* dull-ferruginous; feathers each side the *neck* lanceolate, edged with black and tip with cream-colour; lower part of the *breast* testaceous, the feathers edged with black; *wings* dull-brown; *tail* deep cinereous; *crest* of 5—6 upright, black feathers, slightly bending forwards and gradually widening towards the tips, the sides doubling inwards.

Female wants the black throat and whitish margin. *Nat. Miscel.* 345.

Toyoclos. *Legs* tawny; crown and neck barred with white and black; *body* above tawny, varied with white.

Lesser Mexican ♀.

Inhabits *New Spain*. *Eyes* black.

Suscitator.

Suscitator. Varied with yellowish, rufous, black and grey; bill longer than in others. *Noisy ♀*.
Inhabits the woods of *Java*: a very clamorous bird.

Striatus. Legs reddish; eyebrows white; bill, chin, lower part of the breast and belly black, speckled with white. *Madagascar ♀*.

Inhabits *Madagascar*: twice as large as *T. coturnix*.
Colour above brownish-rufous; crown and back streaked with white, the latter varied with transverse black bands; line beginning from the gape of the mouth and running nearly parallel with the eyebrows white; upper part of the breast bay; feathers of the flanks long, narrow, bay; quill-feathers dirty-brown, the secondaries bay, with yellowish bars; tail black, with ochre lines.

Griseus. Bill and legs black; body pale and dirty-grey, barred with black. *Grey-throated ♀*.
Inhabits *Madagascar*; size of the common quail.
Crown and neck above varied with black and rufous; lower feathers of the body each with 2 black stripes parallel to the margin; wings brown.

Coromandelicus. Head black; crown and eye-band reddish-yellow; chin white, surrounded with a black streak; body striate; quill-feathers brown. *Coromandel ♀*.
Inhabits *Coromandel*; a third part less than the last.
Body beneath with a longitudinal black angular band.
Female, feathers of the throat streaked with white and with 2 round spots at the sides, of the belly with 2 black bands.

Novæ Guineæ. Brown; legs greyish; quill-feathers black; wing-coverts pale yellow. *New Guinea ♀*.
Inhabits *New Guinea*; half as large as *T. coturnix*.
Irids greyish; head and belly more glossy.

Manillensis. Above black; bill and legs deep black; chin white; breast grey, spotted with black; belly yellow with black bars. *Manilla ♀*.
Inhabits *Manilla*; 4 inches long.
Wings with grey lines; flanks tinged with rufous.

Hudsonica. Body pale brownish-rufous; neck above spotted with white; wings, back and tail with distant, transverse white lines. *Hudsonian ♀*.
Inhabits

Inhabits Hudson's Bay : 5 inches long.

White lines of the upper part of the *body* edged with black on the lower side.

Cristatus. Pendent crest and chin tawny.

Crested Q.

Inhabits Guiana and Mexico ; $6\frac{1}{4}$ inches long.

Bill, *quill-feathers* and *legs* brown ; *crest* narrow, an inch long ; *crown* tawny ; rest of the *body* varied with rufous, brown, black and dirty-yellow ; *tail* varied with brown and grey.

Sinensis. Body spotted with grey ; throat black, with a white arch.

Chinese Q.

Inhabits China and the Philippine Isles : 4—6 inches long ; is carried alive in the winter by the Chinese, between their hands, for the purpose of warming them.

Bill black ; *body* above varied with blackish and brownish ; *cheeks* and *throat* white ; *breast* with a black bar ; *belly*, *vent* and very short *tail* bay ; *quill-feathers* brownish ; *legs* yellow.

Coturnix. Body spotted with grey ; eyebrows white ; tail-feathers with a ferruginous edge and crescent. *Common Q.*

2. Much larger in size.

Inhabits the whole ancient world ; $7\frac{1}{2}$ inches long ; migrates and feeds on corn ; calls nearly all night long ; eggs whitish, with irregular rusty spots.

Bill black ; *head* black, varied with rufous ; down the middle of the *crown* and *neck* a yellowish streak ; *feathers* of the back rusty-brown, varied with grey, the shafts with a longitudinal yellowish streak ; *body* beneath dirty-ochre ; *throat* and *breast* reddish ; *quill-feathers* grey-brown, with rufous bars without ; *tail-feathers* 12, with reddish and black lines ; *legs* brownish.

†† Feet 3-toed.

Gibralticus Legs pale ; bill black ; wings and tail deep black.

Gibraltar Q.

Inhabits near Gibraltar : $6\frac{1}{2}$ inches long.

Crown brown, surrounded with a white edge ; *back* brown, with white lines ; *wing-coverts* rusty, tip with white and a black spot in the middle, surrounded with white ; *chin* with black and whitish lines ; *feathers* of the *breast* white, with a black spot, rusty in the middle ; *tail* edged with white, and streaked with black and brown.

Andalusicus.

Andalusica. Rufous varied with black, beneath reddish-white; bill and legs flesh-colour. *Andalusian* ♀.

Inhabits *Andalusia*.

Throat and breast tinged with yellow; quill-feathers black.

Nigricollis. Body above varied with cinereous, rufous and black; beneath, legs and bill cinereous; chin and throat black; quill-feathers brown. *Black-necked* ♀.

Inhabits *Madagascar*; 6½ inches long.

Head and sides of the neck varied with white and black.

Luzonensis. Head, neck above and chin varied with white and black; throat and breast bay; belly yellowish; bill and legs pale grey. *Luzonian* ♀.

Inhabits *Manilla*: a third part less than *T. coturnix*.

Back blackish-grey; quill-feathers grey, the lesser yellow towards the tip, with a round, yellowish-black spot, surrounded with a semicircle of bay.

C. Orbits with a few feathers; legs naked, 4-toed unarmed. Tinamou.

Guianensis. Bill and legs brown; back ashy-brown, varied with blackish stripes; chin cinereous; belly pale orange.

Cayenne T.

Inhabits *Cayenne* and *Guiana*; 11 inches long, a species something between the partridge and tinamou.

Granulations on the orbits red; eye-band reddish; plumage above reddish-brown; breast ashy-brown, with paler lines; quill-feathers on the outside spotted with rufous.

Major. Legs yellowish-brown; bill black; crown rufous; body olive; back and tail with black spots. *Great* T.

Inhabits woods of *South America*; 18 inches long; roosts on the lower branches of trees; feeds on worms, insects, seeds and fruit; builds twice a year at the root of a large tree, and lays 12—15 green eggs.

Greater quill-feathers cinereous, the secondaries inclining to rufous; legs covered with scales standing out behind.

Cinereus. Body cinereous; head and neck with a reddish tinge.

Cinereus T.

Inhabits with the last; 12 inches long.

Variegatus

Variegatus Bill and legs brown; head and neck above black; body above varied with chestnut and black transverse lines, beneath rufous; chin and middle of the belly white.

Variegated T.

Inhabits *Guiana*: 11 inches long.

Lower mandible yellowish; orbits pale; quill-feathers brown.

Soci. Bill and legs yellow; head and neck black; body above brown, beneath rufous. *Little T.*

Inhabits *Guiana*; 9 inches long; builds an hemispherical nest in the branches of trees.

Chin mixed with white; quill-feathers brown.

ORDER VI. PASSERES.

Bill conic, pointed: nostrils oval, pervious, naked.

74. COLUMBA. *Bill straight, descending towards the tip: nostrils oblong, half-covered with a soft, tumid membrane.*
Pigeon.

A. Tail even, moderate.

**Oenas.* Blueish; neck above glossy-green; double band on the wings and tip of the tail blackish. *Stock P.*
Inhabits old turrets and rocky banks of *Europe* and *Siberia*, and migrates southerly in winter; about 14 inches long.
Note. The eggs of all the pigeon tribe are white.
Throat and breast claret-colour; claws black.

- **Domestica* Cinereous; rump white; band on the wings and tip of the tail blackish. *Common P.*
2. Wings with a double blackish band. *Stock Dove.*
 3. Quill-feathers brown. *Rock P.*
 4. Cere whitish, scurfy. *Roman P.*
 5. Legs rough with feathers. *Rough-footed P.*
 6. Legs rough; head crested. *Crested P.*
 7. Crested; body snowy; legs rough. *Norway P.*
 8. Area of the eyes naked, tuberculate; wings with each a double black spot. *Barbary P.*
 9. Feathers of the hind-head erect, reflected. *Jacobine P.*
 10. Down small, erect, dispersed over the back and wings. *Laced P.*
 11. Feathers on the breast recurvate. *Turbit P.*
 12. Tail erect, many-feathered, broad. *Shaker P.*
 13. Tumbles over and over in flight. *Tumbler P.*
 14. Head, quill and tail-feathers of one colour, but different from that of the body. *Helmet P.*
 15. Cere granulated, red. *Turkish P.*
 16. Cere

16. Cere broad, carunculate, whitish ; eyelids naked.

Carrier P.

17. Crop inflated.

Powter P.

18. Crop inflated ; cere carunculate.

Horseman P.

19. Strikes its wings violently in flight.

Smiter P.

20. Crest hanging down from the crown like a mane.

Turner P.

21. White ; tail and spot on the front of one colour.

Spot P.

Inhabits and is domesticated in almost every part of *Europe* and *Asia* ; 14—15 inches long ; lays 9—11 times a year.

Montana. Orbits naked, red ; body rufous, beneath yellow.

Partridge P.

Inhabits *Cayenne* and *Jamaica* ; 8½ inches long ; resembles a partridge, and builds in low trees.

Chin, throat and breast flesh-colour ; *belly and vent* reddish.

Tetraoides. Head and neck black edged with white.

Tetraoid P.

In size and appearance resembles *Tetrao rufus*.

Leucocephala. Orbits and crown white ; body blueish.

White-crowned P.

Inhabits *South America* ; 10½ inches long ; resides in flocks among the rocks, and feeds on coffee and other berries.

Bill purple at the base, tip with white ; *scrag* of the neck shining green, edged with black.

Leucoptera Orbits naked, blue ; tail-feathers cinereous, tip with white, the middle ones brown.

White-winged P.

Inhabits *India* and *Carthageria* in *America* ; 8—9 inches long ; moves its tail like the wag-tail.

Bill black ; *irids* tawny ; *front, cheeks, throat and breast* reddish-brown ; between the ears each side a transverse black streak ; *hind-head, neck and body* above brown ; *belly and rump* cinereous ; *quill-feathers* black.

Fascia. Brown ; eyes black ; neck and breast waved white and black.

Inhabits *Carthageria* in *America* ; size of the turtle-dove.

Nova Seelandia. Orbits and body red ; belly white ; rump blue ; tail black.

New Zealand P.

Inhabits

Inhabits *New Zealand*; 18 inches long.

Bill and *irids* red; *throat* with a green gloss; *quill-feathers* dusky; *vent* blueish.

Brunnea. Cap, neck above, back and wing-coverts brown; breast, neck beneath and rump shining green. *Brown P.*

Inhabits *New Zealand*. *Bill* and *legs* red.

Chalcopetra. Brownish, edged with rufous; front and chin white; a bluish copper-gold bar on the wings and a black one near the tip of the tail. *Bronze-winged P.*

Inhabits *Norfolk Island*: size of *C. oenas*. *Phill. Bot. Bay*, 162.

Bill and *legs* red; *lores* white; *body* above ashy-brown, beneath paler, all the feathers edged with tawny; lesser wing-coverts brown, with a few copper-gold oval spots, the rest with an oval copper-gold spot at the tip, forming a transverse bluish bar; *quill-feathers* brown, within rufous; 2 middle tail-feathers brown, the rest pale lead-colour.

Caribbaea. Head, neck and breast purplish; belly whitish; back, rump and tail blueish, the latter with a black bar.

Ring-tailed P.

2. Tail without the bar; orbits naked, yellowish; neck shining copper; body blueish.

Inhabits the *Caribbee Islands*; 15 inches long.

Bill greenish, with a red base; *cere* gibbous; *irids* red; wings brownish.

Guinea. Orbits naked, red; wings with triangular white spots; tail-feathers tipped with black. *Triangular spotted P.*

Inhabits southern *Africa*; size of *C. palumbus*.

Bill blackish; *irids* yellow; *head*, *neck* and *body* beneath cinereous, above purplish-brown, with a violet tinge; *belly*, *vent* and *rump* white; *claws* brown.

Coronata. Blueish, above cinereous; orbits black; crest erect; shoulders ferruginous. *Great crowned Indian P.*

Inhabits *New Guinea*; size of a turkey.

Bill and *lores* black; *irids* red; *crest* compressed, 5 inches long; *wing-coverts* tipped with ferruginous; *wings* and *tail* blackish-ash, the latter paler at the tip; *legs* various in colour.

Cristata.

Cristata. Eyelids white; hind-head with a red-gold crest; breast and belly violet; back, rump and tail green; legs yellow; hind-toe unarmed. *Lesser crowned P.*

2. Bill yellowish; eyelids red; orbits naked, reddish; head and neck chestnut.

Inhabits *Malacca*; size of the common pigeon.

Head, neck and bill black, base of the upper mandible and irids yellow; front with 6 long bristly hairs; frontlet white; lesser wing-coverts brown, the rest and lesser quill-feathers reddish-white, waved with black, greater quill-feathers rufous.

Albicapilla Green; crown whitish; greater quill-feathers and tail black; semicircular spot on the armpits half green, half grey. *Grey-headed P.*

Inhabits the *Island Panay*; size of the common pigeon.

Bill red; irids yellow; sides of the neck chestnut, with a brassy gloss; lesser quill-feathers green, with a metallic gloss.

*Pompado-
ra.* Greenish; cheeks and chin yellowish; wing-coverts purple; quill-feathers black, edged with yellow.

Pompadour P.

Inhabits *Ceylon* and *India*. Female, wings green.

*Phanico-
tera.* Olive, beneath ashy; head and neck yellowish; lesser wing-coverts purplish, greater and secondary quill-feathers streaked with black and white.

Purple-shouldered P.

Inhabits *India*; size of the common pigeon.

Bill dusky; legs yellow.

Asatica. Green-ash; head cinereous; body beneath and spot on the wings white; quill-feathers black, edged on the outside with white. *Indian P.*

Inhabits *India*; 11 inches long.

Above the breast a white collar; legs bluish or yellow.

*Erythrop-
tera.* Black; eyebrows and front white; neck above, shoulders and wing-coverts fine red; tail from the base to the middle cinereous; legs brown. *Garnet-winged P.*

2. Throat

2. Throat and breast white; eyebrows ferruginous; wings and tail blackish.
3. Reddish-black; eyebrows and breast white; legs red.
Inhabits *South Sea Islands*; $9\frac{1}{2}$ inches long.
Bill yellow or black.

Striata. Orbits and lores white; body cinereous, barred with black, beneath rufous. *Barred Turtle.*

Inhabits *India and China*; $9\frac{1}{2}$ inches long.

Bill pale horn or blueish; nostrils blueish; eyes black; irids blue-ash; front, cheeks, chin, sides of the neck and body blueish; crown and hind-head verging to rufous; neck above, back, rump and wing-coverts pale brown, with black lunules; throat, breast and belly tinged with rufous.

* *Palumbus.* Cinereous; tail-feathers black on the hind-part; primary quill-feathers whitish on the outer edge; neck each side white. *Ring Dove.*

Inhabits *Europe*, rarely *Siberia*; lives in woods and builds in trees; $7\frac{1}{2}$ inches long.

Bill yellowish; cere red, scurfy; irids yellowish; head, back and wing-coverts blueish; rump and throat pale ash; breast claret; belly and vent whitish; neck above and at the sides green-gold, with a white crescent each side; feet rough as far as the toes.

Cerulea. Blue; beneath, bill, legs and wing-coverts red. *Blue P.*
Inhabits *Mexico*; size of the common pigeon; irids red.

Holotl. Purplish-red; lesser wing-coverts white; bill and legs scarlet. *White-shouldered P.*

2. Body pale tawny.

Inhabits *New Spain*; lives in mountainous woods.

Navia. Brown, spotted with black; breast and belly pale tawny; wings and tail brown. *Black-spotted P.*

Inhabits the cold woods of *Mexico*; size of *C. ænas*.

Bill black; lower tail-coverts cinereous.

Mexicana. Brown; orbits red; breast and tip of the wings white. *Mexican P.*

Inhabits *New Spain*. Irids black.

Pacifica. Cinereous, above greenish-brown; vent ferruginous; bill and tail blackish. *Ferruginous-vented P.*

2. Head, neck, breast and belly whitish; back, wing-coverts and tail greenish; bill gibbous at the base.

Inhabits *South Sea Islands*; 13½ inches long.

Nostrils gibbous; chin whitish; breast claret; legs red or brown.

Curvirostra. Green, beneath yellowish; vent white; back and shoulders bay; wings with 2 yellow bars; middle tail-feathers green, lateral ones cinereous, with a black band.

Hook-billed P.

Inhabits *Tanna*; 7½ inches long.

Bill sharply keeled, very much bent in at the tip, yellow, with a red base; tail rounded.

Female, back green.

Tannensis. Green; wing-coverts spotted with white; secondary quill-feathers edged with yellow at the tip.

Tanna P.

Inhabits *Tanna*; 11 inches long.

Bill slightly hooked; legs red; tip of the tail pale.

S. Thomæ. Green; vent yellow; legs saffron; bill curved, blue, with a red base. *St. Thomas P.*

Inhabits *St. Thomas Island*; size of the common P.

Eyes black; orbits blue; wings and tip of the tail brown.

Aromatica. Olive; back bay; double bar on the wings yellowish and black; quill-feathers black, edged with yellow.

Aromatic P.

Inhabits *Amboina*; 10½ inches long.

Bill greenish; crown grey; tail beneath black at the base, whitish at the tip; upper tail-coverts dirty-ochre; wing-coverts bay, some of them tipped with yellowish; legs grey or red.

Cyanocephalus. Head blue; band under the eyes white. *Blue-headed P.*

Inhabits warm parts of *America*; size of the common P.

Bill red at the base, blackish at the tip; eyes and claws black; throat blue, surrounded by a white or black arch; neck, back, rump, tail and wing-coverts brown; breast and belly claret, the latter verging to rufous; tail above cinereous, beneath blackish.

Suratensis.

Sutatenfis. Grey-claret; feathers of the nape and neck above black, the former with a white fillet, the latter with a rufous one; quill-feathers black; back, rump and tail dirty-grey. *Surat Turtle.*

Inhabits round *Surat*; size of *C. risoria*.

Bill black; irids red; wing-coverts cinereous, with a black streak down the middle; lower tail-coverts white.

Cambayen- Grey; belly white; lateral tail-feathers half black, half
fis. grey; quill-feathers black. *Cambayan Turtle.*

Inhabits *Cambay*; size of the common turtle.

Bill black; irids red; feathers of the throat black, the lower, third part rufous.

Malabari- Grey; belly white; middle wing-coverts with oval spots;
ca. lateral tail-feathers black, the lower third part white. *Malabar Turtle.*

Inhabits *Malabar*; size of the common turtle.

Bill and irids red.

Antarctica Grey lead-colour, beneath paler; hind-head with a pendent ferruginous crest; wings and tail blackish, the latter with a pale bar. *Antarctic P.*

Inhabits *New Holland*; size of the ring-dove. *Zool. N. Holl. 15. t. 5.*

Bill and legs red, lower mandible with a blueish tip; front and chin blueish; body beneath with a pale reddish tinge.

Madagaf- Legs downy; tail violet; body blackish-blue.
cariensis. *Madagascar P.*

Inhabits *Madagascar*; 10½ inches long.

Bill and toes red; feathers of the neck narrow, cinereous.

Australis. Green; belly, vent and thighs spotted; shoulders violet. *Southern P.*

Inhabits *Madagascar*; 12 inches long.

Bill lead-colour; eyes and legs blood-red; hind-part of the belly, vent and thighs spotted with black.

Francia. Blue; naked orbits, rump and tail red; feathers of the head, neck and breast long, narrow, pointed.

Hackled P.
Inhabits

Inhabits the *Isle of France* ; larger than the ring-dove ; is by the inhabitants accounted poisonous.

Bill and irids red ; legs black.

Maculata. Deep green ; body above spotted with whitish ; belly blackish ; tail black, tip with ferruginous.

Spotted-green P.

Length 12 inches ; bill and claws black ; feathers of the neck long, narrow ; legs downy on the fore-part.

Aenea. Legs downy ; bill and toes greenish ; body brassy-colour.

Nutmeg P.

2. Head blueish ; body beneath grey-rufous ; vent yellowish ; legs flesh-colour

Inhabits the *Molucca Isles*, 2) *New Zealand* ; 17 inches long ; feeds on nutmegs.

Head and neck whitish, mixed with claret ; quill-feathers cinereous, 2) wings and tail black.

Alba. White ; wings and lower part of the tail black ; bill and legs pale grey.

White Nutmeg P.

Inhabits *New Guinea* : middle sized ; feeds on nutmegs and other aromatic seeds which it scatters with its excrements.

Viridis. Brassy-green, beneath purple-violet. *Green Turtle.*

Inhabits *Amboina* ; near 8 inches long.

Bill red ; front and chin cinereous ; greater wing-coverts above sulphur, lower cinereous ; quill-feathers blackish, the outer edge and tip brassy-green ; lateral tail-feathers tip with sulphur, beneath blackish, with whitish tips ; lower tail-coverts greenish-white.

Melanoccephala. Green ; head blueish-ash ; hind-head black ; chin yellow ; vent orange ; 6 middle tail-feathers green, the rest clear red. *Black-cap P.*

Inhabits *Java* : 9½ inches long.

Bill black, tip with yellow ; tail a little wedged.

Javanica. Green ; head, neck and breast red-claret ; greater quill-feathers brown ; belly black. *Javan Turtle.*

Inhabits *Java* ; size of the last.

Bill reddish, covered with a white cere ; front and temples paler the rest of the head.

Cyanocephala. Above green, beneath reddish; crown blue; wings and tail black-blue. *Blue-crowned Turtle.*
Inhabits China: size of the 2 last. Bill red.

Martinica. Subviolet; belly reddish; quill-feathers rufous on the inner webs. *Martinico P.*

2. Reddish-brown; collar violet-gold; wings spotted with black; lateral tail-feathers ending in black, the very tip white.

Inhabits Martinico: 9½ inches long.

Bill, granulations on the eyebrows and irids red.

Jamaicensis. Tail-feathers blue, terminated by a white line. *White-bellied P.*

Inhabits trees in Jamaica; 9 inches long.

Nostrils gibbous; irids, crown and body beneath white; neck above varied with blue and purple; back and rump purplish-brown.

Senegalensis. Three outer tail-feathers white on the lower half; neck beneath spotted with black. *Senegal Turtle.*

Inhabits near the river Senegal; about 10 inches long.

Bill blackish; head, neck and breast claret; upper part of the back brown, lower cinereous; belly white; quill-feathers cinereous without, within and beneath brown; 6 middle tail-feathers ashy-brown, beneath from the base to the middle black, the rest cinereous.

Vinacea. Two middle tail-feathers grey-brown, the rest 2 thirds black, lower third grey; collar black. *Collared Senegal Turtle.*

Inhabits near the Senegal; size of the last.

Bill blackish; head, neck and breast vinaceous; back and rump grey-brown; belly whitish; quill-feathers blackish-brown, edged with whitish; claws brownish.

Nicobarica Tail white; body black; wings blue; back shining-green; feathers of the neck long. *Nicobar P.*

Inhabits Nicobar Island; size of the common P.

Bill black; irids hazel; body dark purple-blue; feathers of the neck pointed, with a gloss of blue, red and gold.

Species.

Speciosa. Back, head and wings ferruginous; tail round, black; feathers of the neck and breast waved with rufous, then with white and edged with blue.

Scallop-necked P.

Inhabits Cayenne; larger than the turtle-dove.

Bill red; cere white.

Corensis. Tail even; orbits naked, speckled with black; body grey. Inhabits South America; size of the common P. Eyes red; feathers of the neck disposed like scales.

Sinica. Brown, barred with black; belly reddish; wings and bill black.

Striated Turtle.

Inhabits China; size of *C. risoria*.

Irids white; crown cinereous; feathers of the cheeks and sides of the neck yellow, tip with red; longitudinal bar on the neck blue; breast and belly rosy; wing-coverts brownish, with a transverse white and black spot near the tip, the rest black tip with white; claws black.

Eimeensis. Front and throat vinaceous; crown and neck above brown; double band on the breast purple and white.

Purple-breasted P.

Inhabits Eimeo; 14 inches long.

Bill and claws black; cheeks deep black; sides of the neck chestnut, gradually becoming purple.

Purpurea. Greenish; head and neck pale purple; breast orange; vent scarlet.

Purple P.

Inhabits Java; size of *C. cænas*; wings dusky.

Rubricapilla. Black, with a gloss of violet and blue; cap red; neck, upper part of the back and breast blueish-grey.

Red-crowned P.

Inhabits Panay; size of *C. cucullata*.

Bill grey, covered with a red fleshy cere as far as the eyes; legs grey.

Jambu. Green; front red; breast white.

Jambu P.

Inhabits Java; less than the turtle.

Bill and eyes yellow; from the orbits to the breast a tricoloured streak.

Purpurata Green, beneath inclining to cinereous; front and part of the crown purple; vent yellow; wings black.

Purple-crowned P.

Inhabits *South Sea Islands*: 9 inches long.

Bill yellowish or black; irids yellow; head and neck greenish-ash; front and crown often surrounded by a yellow line; primary quill-feathers, except the 2 first, edged with green, secondaries yellow on the outer edge; tail feathers green on the outer edge and marked with an interrupted grey band; legs rough, usually black.

Indica. Body purple; shoulders green; cap blueish.

Green-winged P.

2. Wings green, the coverts violet; rump blue.

Inhabits *Amboina*: 10 inches long.

Bill scarlet; nostrils and cere blueish; front and ocular band white; upper part of the back green-gold and copper, lower and rump cinereous; flexure of the wings spotted with white; belly chestnut; wings brown; 2 middle tail-feathers black, the rest cinereous tip with black.

Rosea. Sanguine-rosy; cere orange; crown, orbits and tips of the smaller coverts white; wings and tail brown.

Rosy P.

Inhabits *India*; size of the common P. *Cim. phys.* 105. tab. 59.

Bill and legs yellow-brown; orbits white, imbedded on the fore-part with black, which colour runs just over the cere, so as to form a black frontlet; irids yellow; body beneath paler.

Canadensis Primary quill-feathers tip with yellowish; tail-feathers subcinereous, the outer ones white. *Canada Turtle*.

Inhabits *Canada*: 13 inches long.

Body grey-brown, beneath sprinkled with yellowish; bill blackish; rump cinereous; belly whitish; lower tail-coverts snowy; wing-coverts spotted with brown; wings brown; middle tail-feathers within towards the base with a large rufous spot, and a brown one beneath.

Female, feathers of the head, neck, breast, upper part of the back and wing-coverts whitish at the tips.

Sanguinea, White; throat and breast sanguine.

Sanguine Turtle.
Inhabits

Inhabits *Manilla* : size of *C. turtur*.

Bill red; irids reddish-purple.

Cruent. Crown, belly and 3 transverse bands on the wings grey; throat white; breast with a sanguine spot.

Red-breasted Turtle.

Inhabits *Manilla* ; 8 inches long.

Bill black; irids ferruginous; neck above violet; wings with 3 grey and 2 black transverse bands; quill-feathers black; tail grey at the base, tip with black; legs reddish-violet.

Afra. Outer tail-feathers at the outer base and spot on the tip white; wing-coverts with violet-azure spots.

African Turtle.

Inhabits near the *Senegal* ; 8 inches long.

Bill reddish; crown cinereous; neck above, back, wing-coverts and rump grey-brown; chin whitish; throat and breast pale claret; belly whitish; wings brown; 2 middle tail-feathers blackish-brown, the rest grey-brown, tip with blackish, beneath white.

**Turtur.* Tail-feathers tip with white; back grey; breast flesh-colour; each side the neck a spot of black feathers, tip with white.

Turtle Dove.

2. Feathers of the sides of the neck black; each with a round white spot near the tip.

3. Brown; spot on the side of the neck varied with black and white; lateral tail-feathers on the outer side tip with white.

4. Two middle tail-feathers black, lateral ones white.

Inhabits *Europe*, *China* and *India* ; 12 inches long; migrates in flocks, and breeds in thick woods; is very shy and retired, and a pest to fields of peas.

Bill brown, 3) black, 4) red; irids yellow, 4) red; crown olive-ash; front and chin nearly white; scapulars and coverts reddish-brown, spotted with black; throat and breast claret; belly and vent white; 2 middle tail-feathers dusky-brown, the end and exterior side of the outermost feathers white.

Orientalis. Grey-brown; feathers of the sides of the neck black, tip with grey-ash; wings with a yellow band.

Chinese Turtle.

Inhabits

Inhabits *China*: size of the last.

Bill, *irids* and *legs* red; *wings* brown, with a transverse yellow bar; *rump* and *tail* grey-ash; *belly* purplish-grey.

Ægyptiaca Testaceous flesh-colour; chin spotted, the feathers black, 2-lobed, truncate and ferruginous at the tip.

Ægyptian Turtle.

Inhabits *Ægypt*. Frequents houses.

Bill black; *head* violet flesh-colour; *orbits* naked, blueish; *back* cinereous; *breast* violet flesh-colour; *belly* and *thighs* whitish; *wings* brown; 2 outermost *tail-feathers* cinereous at the base, black in the middle, the rest white; 2 next on each side cinereous at the base, black in the middle, cinereous below and whitish at the tips; the fifth on each side, brown, obsolete-black in the middle; 2 middle ones wholly brown; *legs* flesh-colour.

*Surina-
mensis.*

Cinereous, beneath whitish; chin varied with black and green; bill blue.

Surinam Turtle.

Inhabits the woods of *Surinam*: 10 inches long.

• *Risoria*. Above pale yellow; neck above with a black crescent.

Collared Turtle.

2. Brown, beneath grey-claret; crown grey; black crescent on the neck above spotted with white; lateral tail-feathers black, spotted with white.

Inhabits *Europe* and *India*: larger than the Turtle-dove.

Bill blackish; *irids* red; *body* beneath white; *rump* and *quill-feathers* grey-brown; *tail* cinereous, the lateral feathers tips with white.

Passerina. Wings and tail dusky; body purplish; bill and legs red.

Ground P.

2. Body with a few white spots.

3. Eyes chestnut; body inclining to reddish.

4. Eyes chestnut; feathers of the neck and breast of many colours.

Inhabits the warm parts of *America*: $6\frac{1}{2}$ inches long; frequents rocky and mountainous places, and feeds on seeds.

Bill blackish at the tip; *irids* orange; *head*, *neck* and *body* above cinereous, beneath and *front* vinaceous; *throat* and *breast* spotted with brown; 2 middle *tail-feathers* dusky-ash, the rest blackish.

Minuta.

Minuta. Brown; wings with 5 steel-blue spots; outermost tail-feathers tipped with white. *Minute P.*

Inhabits *St. Domingo*; $5\frac{1}{2}$ inches long.

Bill and *legs* brown; *body* beneath reddish-white; *wing-coverts* with 7 steel-blue spots; 2 middle *tail-feathers* brown, the rest cinereous at the base, black in the middle and tipped with brown.

Malaccen. Waved with black lines; above grey-ash, beneath cinereous; sides of the neck white; tail-feathers brown, the lateral ones white towards the tip.

Malacca Turtle.

Inhabits *Malacca*; size of a sparrow.

Bill yellow, black in the middle; *irids* and *legs* yellow.

Vernans. Green, beneath yellowish; outer edge of the wings pale yellow.

Inhabits the *Philippine Islands*.

Bill and *legs* red; *breast* azure.

B. Tail long, wedged.

Migrato. Orbits naked, sanguine; breast rufous. *Passenger P.*

Inhabits *North America* in numerous flocks, and is very troublesome to rice and corn fields; 15—16 inches long.

Bill black; *irids* orange; *body* cinereous, beneath vinaceous; *wing-coverts* spotted with black; sides of the neck purple; *quill-feathers* black-brown, edged with whitish; 2 middle *tail feathers* blackish-brown, the rest hoary.

2. Brownish, beneath whitish-rufous; neck on the fore-part subvinaceous; lateral tail-feathers within with a black round spot in the middle.

Primary *quill-feathers* brown, edged without and at the tip with reddish; 2 middle *tail-feathers* brown, lateral ones cinereous from the base to the middle within black, the other part cinereous.

Carolinens. Orbits blue; body beneath reddish. *Caroline P.*

Inhabits warm parts of *America*; $10\frac{1}{2}$ inches long.

Bill blackish; *irids* black; *front*, *throat* and *breast* reddish, with a green-gold and violet gloss (in the male); *body* above brownish-ash; *wings* spotted with black; *tail-feathers* cinereous, tipped with white, and a black spot in the middle; *legs* red.

Melanop-

Melanoptera. Body livid; wings black. *Black-winged P.*
Inhabits Chili.

Amboinensis. Body rufous; neck waved with blackish. *Amboina Turtle.*

Inhabits *Amboina*; 14 inches long.

Bill black; feathers of the crown, neck and breast with blackish transverse bar near the tip; feathers of the upper part of the back and wing-coverts brown, tip with rufous; wings brown; tail reddish-brown.

Capensis. Primary quill-feathers rufous on the inner side. *Cape P.*

Inhabits *Africa*; 9½ inches long.

Bill red; body grey-brown; belly whitish; wing-spot steel; secondary quill-feathers brown, the outer edge grey; black beneath, the lateral feathers at the base grey-brown; tip with blackish.

Male, throat black.

Macroura. Cinnamon, beneath whitish; tail tip with white. *Great-tailed Turtle.*

Inhabits near the *Senegal*; 12 inches long.

Bill red; cere white; tail as long as the body.

Marginata Breast red; tail-feathers tip with black and edged with white. *Margined Turtle.*

Inhabits *America*; 10 inches long.

Bill corneous; irids rufous; lores white; front and chin buff; hind-head blueish-ash; under the ears a black spot; body above brown; shoulders spotted with black; rump ashy; throat and breast rosy; 2 middle tail-feathers blackish, the rest cinereous.

Bantamen. Orbits naked, flesh-colour; neck, breast and feet waved with black and white. *Bantam.*

Inhabits *Java*; size of the wryneck.

Bill black; body above hoary-ash, beneath whitish; wings and breast with lunate black spots; tail as long as the body, feathers 14, the 6 middle ones black, the white towards the tip; legs red.

Dominica.

Dominicensis.

Body grey; sides of the head and collar beneath the nape white; spot on the crown, band under the eyes and collar on the neck black. *St. Domingo Turtle.*

Inhabits *St. Domingo*: 11 inches long.

Bill black; *wings* with a few blackish spots; *breast* vinaceous; *front*, *chin* and *vent* white; *tail* grey, the outermost feathers white; *legs* red.

75. *ALAUDA*. *Bill* cylindrical, subulate, straight; the mandibles equal and a little gaping at the base: *tongue* bifid: *hind-claw* straight, longer than the toe. *Lark.*

Arvensis. Outer webs of the 2 middle tail-feathers white, middle ones ferruginous on the inner side. *Sky L. Field L.*

2. Body wholly white.

3. Body black-brown.

4. Legs very long. Inhabits *Russia*.

Inhabits *Europe*, *Asia* and *Africa*: 7 inches long; feeds on fruits and insects; sings exquisitely at the earliest dawn, as it soars spirally in the air, increasing the volume of its note as it ascends; assembles in vast flocks in winter, when it becomes very fat; builds on the ground beneath a clod, and lays 4—5 greenish-white eggs, with dusky confluent spots. This and the wood-lark are the only birds that sing as they fly.

Body above varied with blackish, reddish-grey and whitish, beneath reddish-white; *bill* and *legs* black; *throat* spotted with black.

Rufa.

Blackish-brown; neck above, back and scapulars reddish-orange; wings and tail dusky. *Rufous-backed L.*

Inhabits *Bonaria*; hardly 5 inches long.

Pratensis Greenish-brown; outer webs of the 2 outermost tail-feathers white; eyebrows with a white line. *Tit-lark.*

Inhabits *Europe*, in low grounds; 5½ inches long; has a fine note and sings sitting in trees or on the ground.

Bill black; *body* beneath white; *breast* ochre-yellow, with oblong black spots; *legs* yellowish.

**Minor*. Reddish-brown, spotted beneath; chin and belly white; throat and breast obscure yellow. *Field L.*

Inhabits *Europe*; larger than the last.

Legs brownish; *wing-coverts* edged with white; *quill-feathers* dusky, the outer web of the first edged with white, the others with yellowish-green; *hind-claw* short, sometimes hooked.

Italica. Middle tail-feathers bay, the 2 outermost white, the next tip with white. *Italian L.*

Inhabits *Italy*: 8 inches long.

Bill red; *body* above bay, the feathers edged with reddish-white, beneath white; *legs* flesh-colour.

**Arborea*. Head surrounded by a white annular fillet. *Wood-lark.*

Inhabits *Europe* and *Siberia*: less than the sky-lark; sits on trees and whistles like the blackbird; sings in the night and in its flight; builds on the ground; eggs dusky, with deep brown blotches.

Body varied like *A. arvensis*; *legs* flesh-colour.

Ludoviciana. The outermost tail-feather but one tip with white, the outermost half brown, half white. *Louisiane L.*

Inhabits *Louisiana*; 7 inches long.

Body above brown, mixed with greenish and blackish; *quill-feathers* blackish-brown; *tail* brown; *throat* and *breast* yellowish-grey, spotted with brown; *belly* tawny.

**Rubra*. Brown; orbits blackish; 2 outermost tail-feathers white. *Red L.*

Inhabits *North America*, and is sometimes found near *London*; about the size of *A. arvensis*.

Bill blackish; a white line crosses each *eye* and another beneath; *body* beneath dirty-white, with black spots; *legs* brown; *hind-claw* a little curved.

Mosellana. Rufous, beneath reddish-white; cheeks and breast with brown lines; tail black, edged with rufous. *Marsh L.*

Inhabits *Germany*: 6½ inches long.

Bill, *legs* and *claws* yellowish.

Campes.

Campestris Tail-feathers brown, the lower half, except of the 2 middle ones white; chin and breast yellowish. *Meadow L.*

2. Two outermost tail-feathers obliquely half-white.

Inhabits *Europe*; 7 inches long.

Upper mandible blackish, lower flesh-colour; legs brown;
2) bill and legs black.

Malabari-ca. Wings and tail dirty-brown, with reddish edges.

Malabar L.

Inhabits *Malabar*; $5\frac{1}{4}$ inches long.

Bill black; crest long, brown, tip with white; chin and belly reddish-white; feathers of the back and wing-coverts brown, the edge reddish towards the tip, and marked with a white spot; legs reddish.

Gingica. Above brown-ash, beneath and ocular band black.

Gingi L.

Inhabits *Coromandel*; $4\frac{1}{2}$ inches long.

Bill and legs reddish-grey.

Tartarica. Tail a little forked; body blackish-brown, the feathers edged with whitish; wings and tail black. *Black L.*

Inhabits *Europe* and *Tartary*; size of a stare.

Bill thick, convex, yellowish horn-colour.

Female and young birds brownish.

2. Feathers above hoary at the edges; wings and tail brown.

Inhabits near *Astracan*; 7 inches long.

Bill brown.

Female, front hoary; young bird cinereous, or reddish varied with grey.

Yeltonien-as. Black, varied above with reddish; exterior edge of the sixth quill-feather white; 2 middle tail-feathers rufous.

Inhabits near the lake *Yelton*, beyond the *Volga*; size of a stare; is gregarious and of an exquisite flavour.

Bill cylindrical, subulate, straight, thickish, black at the base, whitish at the tip; tongue bifid; head and back with a few reddish feathers.

Trivialis. Tail-feathers brown, the outer one half white, the second with a white wedged tip; wings with 2 whitish lines.

Grasshopper L.

Inhabits

Inhabits *Europe* : 5—6 inches long ; is an artful shy bird, and chirps like the grasshopper, but louder.

Bill dusky ; *legs* whitish ; *lores* white ; *body* above greenish-brown, the feathers dusky in the middle, beneath yellowish-white ; *breast* dirty-white ; *tail* longish, somewhat wedged.

•*Obscura*. Olive-brown, varied with blackish, beneath yellowish ; sides of the neck and breast with brownish spots ; outermost tail-feathers obliquely half whitish, second whitish at the tip. *Rock L.*

Inhabits rocky places in *England* ; $7\frac{1}{4}$ inches long ; is solitary and sings but little ; its note like the chirp of the grasshopper.

Bill slender, long, brown, deeper at the tip ; *tail* 3 inches long, not wedged ; *legs* red-brown ; *hind-claw* hooked, hardly longer than the toe.

Cristata. Tail-feathers black, the 2 outermost white on the outer edge ; head crested ; legs black. *Crested L.*

Inhabits *Europe* ; $6\frac{1}{2}$ inches long.

Bill brown ; *crest* darker than the body ; *body* cinereous ; *breast* and *belly* white, with a yellow band.

•*Nemorosa* Tail-feathers black, the 2 outermost white on the outer edge ; head crested ; legs red. *Lesser-crested L.*

Inhabits most parts of *Europe* ; less than the last.

Body pale brown ; *legs* red.

Undata. Tail-feathers brown, edged with reddish ; legs yellowish ; feathers of the crest black, edged with white. *Undated L.*

Inhabits *Europe* and *Africa* : $6\frac{1}{2}$ inches long.

Bill above brown, beneath whitish ; *crest* moveable ; *body* above mixed blackish and reddish, beneath white ; greater wing-coverts tipped with white ; *quill-feathers* brown, edged with reddish ; *neck* and *breast* with blackish spots.

Senegalensis. Two middle tail-feathers grey, the rest brown, the outermost on the outer side reddish-white ; head subcrested. *Senegal L.*

Inhabits near the *Senegal* : $6\frac{1}{2}$ inches long.

Bill horn-colour ; *body* above mixed grey and brown, beneath whitish ; *chin* with small brown spots ; *quill-feathers* grey-brown, edged with grey, the base within rufous ; *legs* grey.

Tefar

Testacea. Four middle tail-feathers black, the rest white-testaceous; body above testaceous, beneath whitish.

Testaceous L.

Inhabits near *Gibraltar*.

Bill black; crown and wing-coverts spotted with black; quill-feathers black, secondaries edged with testaceous; legs yellow.

Lusitana. Yellowish-brown, the feathers brown in the middle; beneath and outer tail-feathers yellowish-white.

Portugal L.

Inhabits *Portugal*. Bill white; legs flesh-colour.

Africana. Tail, wings and coverts brown, edged with white; body beneath white, with oblong brown spots.

African L.

Inhabits the *Cape of Good Hope*; 8 inches long.

Bill black; body above varied with brown, rufous and white; legs brown.

Cinerea. Cinereous; belly and vent white; quill and tail-feathers brown, the outermost without near the tip white.

Cinereous L.

Inhabits the *Cape of Good Hope*; 6 inches long.

Nostrils placed in a soft membranaceous groove; legs black.

Rufa. Tail-feathers brown, the 8 middle ones edged with reddish, the outermost with white.

Rufous L.

Inhabits *South America*; 5½ inches long.

Bill brown; body above blackish tinged with rufous, beneath white; quill-feathers edged with rufous, the greater ones grey, lesser brown legs yellowish.

Capensis. Three lateral tail-feathers tipped with white; chin pale yellow, edged with black; eyebrows yellow.

Cape L.

Inhabits the *Cape of Good Hope*; 8 inches long.

Bill yellowish-brown; body above and tail brown, each feather darker in the middle; body beneath ochre; legs black; back-claw a little hooked.

Novæ Seelandiæ. Dusky, the feathers edged with ash-colour; belly and eyebrows white; ocular band black.

New Zealand L.

2. Quill and tail-feathers black, the outer edge white

Inhabits

Inhabits *New Zealand* : $7\frac{1}{2}$ inches long.

Bill ashy, above black ; legs reddish-ash.

Mongolica. Crown ferruginous, surrounded by a white fillet and with a black spot in the middle. *Mongolian L.*

Inhabits *Mongolia* ; larger than *A. calandra* ; sings very charmingly on the ground.

Bill thick ; throat with a large, bilobed, black blotch.

Siberica. Secondary quill-feathers white ; crown, ears and shoulders ferruginous ; outermost tail-feathers white on the outer side. *Siberian L.*

Inhabits *Siberia* ; size of the next.

Bill livid tip with brown ; spots on the throat and tail-coverts rusty-yellow ; body beneath whitish ; outer edge of the first quill-feathers white ; legs grey.

Calandra. Outermost tail-feathers without totally white, second and third tip with white ; pectoral band brown.

Calandre L.

Inhabits *Italy* and *Russia* : $7\frac{1}{2}$ inches long ; builds on the ground ; sings finely and imitates the notes of other birds.

Bill and legs pale grey ; body above varied with brown and grey ; chin white ; throat with a white crescent and beneath this a whitish band spotted with black ; belly white ; quill-feathers dusky, edged with white, the lesser ones tip with white ; tail black.

Alpestris. Tail-feathers white on the inner half ; chin yellow ; band under the eyes and on the breast black. *Sherre L.*

Inhabits *Europe* and *North America* ; $6\frac{1}{2}$ inches long.

Bill and legs black ; orbits yellow ; body above, wings and tail chestnut, with dusky streaks, beneath yellowish ; tail-coverts ferruginous.

Female, back grey, with darker streaks.

2. Varied with rufous and grey, beneath white ; crown spotted with black ; lores, band under the eyes and on the breast black.

Inhabits *Siberia* ; $5\frac{1}{2}$ inches long.

76. STURNUS.

76. STURNUS. *Bill* subulate, angular, depressed, bluntish; the upper mandible entire, somewhat open at the edges: *nostrils* furrounded with a prominent rim: *tongue* notched, pointed.

Stare. Starling.

**Vulgaris.* Bill yellowish; body black, with white dots.

Common S.

2. Body white.

3. White; crown, neck, wings and tail black.

4. White; above the eyes, near the bill 2 black spots.

5. Cinereous; bill and legs black.

Inhabits *Europe, Asia* and *Africa*; 9 inches long; breeds in hollow trees, eaves of houses, towers or rocky cliffs; lays 4—5 pale greenish-ash eggs; assembles in winter in vast flocks in marshy places; feeds on worms and insects; is very docile and may be easily taught to speak; flesh bitter and hardly eatable.

Quill-feathers and *tail* dusky, the former edged with yellow on the outer side, the latter with dirty-green; *lesser coverts* edged with yellow and slightly glossed with green; *legs* reddish-brown.

Male shining with purple, green and gold.

Capensis. Blackish, beneath and sides of the head white. *Cape S.*

Inhabits the *Cape of Good Hope*; size of the last.

Bill yellowish; *scapulars* at the tip and *wings* at the edges white; *legs* yellow.

Ludovicianus. Spotted with grey and brown, beneath yellow; head and eyebrows with a white line; chin black.

Louisiane S.

2. Varied with brown, reddish and blackish, beneath yellow; breast with a curved black band; 3 lateral tail-feathers white.

Inhabits *North America*: 9½—11 inches long.

Bill whitish, tip with brown; *cheeks* yellow; *wings* and *tail* reddish-grey; *legs* grey.

Contra.

Contra. Brown ; eye-spot, bar on the wings and belly white.

Indian S.

Inhabits *India* ; is perhaps a variety of *S. capensis*.

Body blackish ; ring on the upper part of the neck white ; upper wing-coverts with white spots ; legs yellow-brown.

•*Cinclus*. Black ; breast white.

Water-ouzel. Crane.

Inhabits *Europe* and *Northern Persia* : $7\frac{1}{4}$ inches long ; frequents waters, and feeds on aquatic insects and small fish ; is very solitary, and breeds in the holes of banks ; makes a curious nest of hay and fibres of roots, lined with dead leaves and having an entrance of green moss.

Chin white ; tail black ; belly ferruginous, in the young bird white ; legs pale blue before, black behind.

Militaris. Grey ; breast and chin red.

Magellanic S.

Inhabits *Falkland Islands* ; $11\frac{1}{2}$ inches long.

Behind and under the eyes a white spot ; lores red ; each side the neck a black blotch ; vent and subforked tail black.

Moritanus Cinereous ; lower part of the head and chin varied with cinereous and white ; belly spotted with reddish-hoary ; bill tipped with black.

Inhabits alpine parts of *Persia* ; size of the common lark ; builds in hollow rocks and feeds on insects.

Loyca. Spotted with brown and white ; chin and breast scarlet.

Inhabits *Chili* ; larger than *S. vulgaris* ; builds in holes on the ground, and lays 3 cinereous eggs, varied with brown ; sings well and is easily tamed.

Mexicanus Blue varied with black.

Mexican S.

Inhabits *South America* ; size of *S. vulgaris*.

Bill and eyes black ; irids pale yellow ; head small.

Obscurus. Black ; head brown.

Brown-headed S.

Inhabits *New Spain* ; less than the last.

Zeylanicus Line over the eyes and one on the sides of the head black ; body grey, varied with ochre and white spots, and crescents ; quill-feathers green ; tail with green and black lines.

Ceylonese S.
Inhabits

Inhabits *Ceylon*; imitates the notes of other birds.
Bill black; *head* yellowish; *legs* blueish-grey.

Fuscus. Olive; eye-band blueish; bill and legs reddish.
Brown S.
 Inhabits *China*. *Belly* yellowish; *tail* long.

Viridis. Green, beneath blueish; a tuft of black and white feathers on the front and chin.
Green S.
 Inhabits *China*.
 Above the *front* and behind the *eyes* a white spot, and 2 on the *shoulders*; *quill-feathers* and *shafts* of the *tail-feathers* white; *legs* blue-ash.

Sericeus. Pale grey; wings and tail black, the former with a transverse white bar; head ochre-yellow.
Silk S.
 Inhabits *China*; size of *S. vulgaris*.
Bill and *legs* orange or red; *plumage* silky.

Carunculatus. Bill and legs black; at each angle of the mouth a pendent orange wattle.
Wattled S.
 Inhabits *New Zealand*; 10 inches long.
Female, rusty-brown, with very small wattles.
Male, black; *back* and *wing-coverts* ferruginous.

Collaris. Blackish-brown, spotted with brown; flanks rufous; chin white, spotted with brown.
Collared S.
 Inhabits *Switzerland* and *Italy*; size of a field-fare; is solitary, wags its tail, feeds on seeds, sings with a very weak voice and builds on the ground or in clefts of rocks.
 Upper *mandible* brown, lower yellowish tipped with brown; *breast* brown-ash; *belly* rufous; *quill-feathers* blackish, the edge at the tip and inner side reddish; *tail* brown; *legs* horn-colour.

Dauricus. Body above violet-black; beneath ashy-white; head and neck blueish-ash; crown with a violet-black streak, (in the *female*) brown.
 Inhabits among the osier plantations of *Dauria*; above 6 inches long; feeds on vegetables and insects.
Bill black, shorter and more convex than in others of its tribe; *tongue* blackish; *irids* brown; *downy eyelids* and *lores* white;
 Vol. I. — 3 R

white; *head* (of the female) cinereous; *back* grey-brown; *wing-coverts* (of the male) black, silky-green, the secondaries tipped with white; *quill-feathers* black, the 2 inner ones tipped with white, primary ones green at the tip; *tail* sub-forked, greenish-black, the *coverts* violet; *legs* bluish-black.

77. TURDUS. *Bill* straightish; the upper mandible a little bending and notched near the point: *nostrils* naked, or half covered with a small membrane: *mouth* ciliate with a few bristles at the corners: *tongue* jagged. *Thrush.*

• *Viscivorus.* Back brown; neck spotted with white; bill yellowish. *Missel T.*

Inhabits woods of *Europe*; 11 inches long; builds in bushes or on the side of some tree, and lays 4—5 eggs; feeds on insects and the berries of holly and mistletoe; sings finely in the spring, sitting on the summit of a high tree.

Bill brown, yellow at the base and angles; *body* beneath whitish-yellow, with spots brown on the chin and white beneath; *quill* and *tail-feathers* brown, with paler edges, the 3 outermost tipped with white; *legs* yellow; *claws* black.

• *Pilaris.* Tail-feathers black, the outermost at the inner edge tipped with white; head and rump hoary. *Field-fare.*

2. Spotted with black; head, neck and body beneath white; chin and breast rufous; back brown; rump cinereous.

3. Head and neck white; body as in 1.

4. Head and neck white; body white with large blackish spots.

Inhabits *Europe*, *Siberia* and *Syria*; 10 inches long; visits *England* about Michaelmas, in vast flocks, and leaves it about March; builds in large trees, and feeds on all kinds of berries.

Bill yellowish tipped with black; *crown* and *neck* above olivaceous; *body* above bay; *quill-feathers* cinereous; *throat* and *breast* yellowish-rufous; *belly* and *vent* whitish; *legs* blackish.

African.

Africanus. Blackish; feathers of the breast black, edged with rufous; bill yellow; legs cinereous. *Margined T.*

Inhabits *Africa*: size of a blackbird.

Head and chin black; bill blackish at the tip; feathers of the fore-part of the belly edged with rufous, of the hind-part edged with white; legs annulate with black.

Tripolitana. Olive-yellow, beneath whitish; quill-feathers black; even tail blackish tip with yellow. *Tripoli T.*

Inhabits *Barbary*; size of *T. viscivorus*.

Barbaricus. Green; breast spotted with white; rump and tip of the tail yellow. *Barbary T.*

Inhabits *Barbary*; size of the last.

Head, neck and back pale green; wings like the lark.

Aoonalafschka. Brown spotted with black; breast yellow spotted with black; wing-coverts, primary quill and tail-feathers black edged with testaceous. *Aoonalafschka T.*

Inhabits the *Island Aoonalafschka*; size of a lark.

**Iliacus*. Wings ferruginous underneath; eyebrows whitish. *Redwing. Wind T.*

Inhabits *Europe*, and migrates in great flocks; 9 inches long; builds in hedges, and lays 6 bluish-green eggs, spotted with black.

Bill blackish; legs pale grey; body grey-brown, beneath whitish, with brown spots; sides and inner coverts ferruginous; vent white.

Minor. Tawny, beneath white; breast yellowish, with black spots. *Little T.*

Inhabits *America*; 7 inches long; migrates.

Bill brownish; orbits pale; legs cinereous.

Jamaicensis. Above cinereous; head, bill and legs brown; wings and tail black; chin white, streaked with brown; breast cinereous; throat and belly white. *Jamaica T.*

Inhabits *Jamaica*; size of a blackbird.

Guianensis. Above greenish-brown, beneath pale ochre, with longitudinal black streaks. *Guiana T.*

Inhabits *Guiana*; 7 inches long.

•*Musculus*. Quill-feathers ferruginous at the inner base.

Throstle. Song T.

Inhabits woods of *Europe*: 9 inches long; is the finest of our singing birds, and like the missel, delivers its music from some high tree; builds in a low bush, a nest of earth, moss and straws, plastered with clay within; lays 5—6 pale blueish-green eggs with dusky spots.

Resembles in colour the missel, but the inner wing-coverts are yellow; bill brown; mouth within yellow; irids hazel; spots on the body more arrow-shaped than in the missel.

•*Olivaceus*. Olive-brown, beneath brown.

Olive T.

Inhabits the *Cape of Good Hope*; 8½ inches long.

Bill, legs and 2 middle tail-feathers brown, the rest ferruginous; lores black; chin yellow-brown, with brown spots.

•*Indicus*.

Olive; bill and legs blackish; quill-feathers brown on the inner side.

Indian T.

Inhabit *India*; 8 inches long.

•*Cinereus*.

Cinereous; 2 middle tail-feathers cinereous, the next each side black, edged and tip with cinereous, the rest black.

Ash-coloured T.

Bill and legs black; greater wing-coverts black, edged with grey; quill-feathers black, edged with white, the secondaries white on the edge and inner side.

•*Migratori-*
us.

Grey; belly rufous; eyelids white; outermost tail-feathers white on the inner tip.

Red-breasted T.

Inhabits *North America*; 9 inches long; migrates in flocks, and sings charmingly; feeds on worms, insects and seeds; builds in trees, and lays 4—5 blueish-green eggs.

Head brown; chin ashy; orbits white; each side between the eyes and bill a white spot; lower wing-coverts white.

•*Punctatus*.

Greyish-brown dashed with blackish; throat lead-coloured; shoulders black, speckled with white.

Spotted-shouldered T.

Inhabits *New Holland*; 8½ inches long. *Zool. New Holl.*
p. 25. tab. 9.

Bill lead-colour; chin black, with a longitudinal white stripe each side; breast spotted with black; from the base of the

bill over the eye and reaching as far as the nape a white stripe; lesser wing-coverts edged with ferruginous; lateral tail feathers black tipped with white.

Canorus. Brown, beneath ferruginous; a white line on the sides of the head; tail rounded. *Crying T.*

Inhabits *Bengal* and *China*: $9\frac{1}{2}$ inches long; feeds on rice, flies and flesh; has a shrill loud note.

Bill and irids yellow; legs reddish.

Female ferruginous, except the quill and 3 tail-feathers which are the greatest part white.

Rufus. Rufous, beneath paler spotted; quill-feathers of one colour; tail rounded, rufous. *Ferruginous T.*

Inhabits *North America*: 11—12 inches long; sings finely; builds in low shrubs; eggs white, with rusty spots.

Polyglottus. Dusky-ash, beneath pale ash; primary quill-feathers white on the outer half. *Mocking-bird. Mimic T.*

Inhabits moist woods of *Virginia*, *Carolina* and *Jamaica*: $9\frac{1}{2}$ inches long; feeds on berries, fruits and insects; has a delightfully musical and solemn note, and can imitate the tone of all other animals; in mimicking the notes of the lesser birds it frequently allures them near it and then terrifies them with the screams of birds of prey; builds often near houses and is easily tamed.

Bill black; irids yellow; tail 4 inches long; legs cinereous.

Orpheus. Back brown; breast and lateral tail tail-feathers whitish; eyebrows white. *Mocking T.*

2, Grey-brown, varied with black and whitish; beneath white, spotted with cinereous and black.

Inhabits *South America*: $8\frac{1}{2}$ inches long; resembles the last in its imitative notes and fine song; eggs white, spotted with brown.

Outermost tail-feathers white, the next white on the outer side; tail long, rounded; bill brown.

Thence. Brown-ash, beneath pale ash; quill and tail-feathers tipped with white.

Inhabits *Chili*; resembles *T. polyglottus* in size and manners; builds a cylindrical nest a foot long, defended on the outside with

with thorns and strewed within with wool and feathers, and having a small opening on the side; lays 4 white eggs, spotted with brown.

Bill, irids and legs brown; body above cinereous spotted with brown and white; breast and belly pale grey.

Sandwichensis. Above and belly brownish; beneath and front white-ash. *Sandwich T.*

Inhabits *Sandwich Islands*: $5\frac{1}{2}$ inches long.
Bill and legs black; tail even.

Australis. Blackish-brown; breast and belly white. *New Zealand T.*
Inhabits *New Zealand*: size of *T. mulicus*.
Bill and legs black.

Pacificus. Above cinereous, beneath brownish-white; lores black; tail black tip with white. *Pacific T.*
Inhabits *Pacific Islands*: $5\frac{1}{2}$ inches long.
Bill and legs black; temples brownish-white; sides of the neck and breast verging to brown.

Suratensis. Crested head, neck, tail, greater quill-feathers and legs black; body above yellowish, beneath dirty-grey; wing-coverts and secondary quill-feathers glossy green. *Surat T.*
Inhabits *Surat*: 8 inches long.
Bill reddish; irids red.

Philippensis. Above olive; neck and breast red, spotted with white; belly and vent pale ochre. *Philippine T.*
Inhabits the *Philippine Islands*: size of a blackbird.

Shanbu. Green-brown; head, lower part of the neck, breast and belly grey; orbits, chin and throat black; ears with a white spot. *Black-faced T.*
Inhabits woods in *China*: size of a blackbird.
Bill black; legs brown.

Novæ Hollandiæ. Blueish lead-colour; fore-part of the head, bill, chin, throat and legs black; quill and tail-feathers black, edged with lead-colour, the middle ones tipped with white. *New Holland T.*
Inhabits *Van Diemen's Land*: 7 inches long. *Plumbeus.*

Plumbeus. Black ; armpits pale yellow ; tail wedged. *Red-legged P.*
2. Blueish ; chin white dotted with black ; tail wedged, (female).

Inhabits *America* ; above 16 inches long ; builds in trees near the banks of rivers and lines its nest with mud ; sings excellently and feeds on berries ; flesh rank.

Male wholly black, except a large yellow blotch under the wings.

Female, bill, eyelids, irides and legs red ; palate orange ; head and body cinereous, beneath paler ; between the bill and eyes a black spot ; chin white, with black lines ; quill-feathers blackish, edged with grey ; tail-feathers blackish, the 4 outer ones each side tipped with white.

Cassidix. Above reddish-brown, beneath black-brown ; quill and 2 pointed middle tail-feathers more dusky.

Thick-billed T.

Inhabits *New Zealand* ; 9 inches long.

Bill blackish ; temples black-brown ; feathers of the neck and breast with a reddish streak in the middle, of the belly with a white one ; legs black.

Female tawny, beneath paler ; wing-coverts with 2 rufous bands.

Ulietensis. Reddish-brown ; quill-feathers edged with black ; tail black, rounded. *Bay T.*

Inhabits *Ulietea* ; 8½ inches long.

Bill reddish ; legs black.

Pallidus. Yellowish-ash, beneath whitish ; tail-feathers brown-ash, the lateral ones tipped with white. *Pale T.*

Inhabits beyond the lake *Baikal* in *Siberia*.

Sibiricus. Black ; mouth yellow ; eyebrows and space under the wings white. *White-browed T.*

Inhabits woods of *Siberia* ; less than *T. viscivorus*.

Ruficollis. Above brown, beneath snowy ; neck and even tail-feathers rufous, the 2 middle ones cinereous. *Red-necked T.*

Inhabits highest mountains of *Dauria* ; size of *T. viscivorus*.

Obscurus. Brown ; eyebrows, chin and vent white. *Dark T.*
Inhabits woods of *Siberia*. Breast blackish.

Phanicurus.

- Phenicurus*. Above olive; eyebrows white; ocular band black; quill and 2 middle tail-feathers tawny, the lateral ones, throat and breast rufous. *Red-tailed T.*
Inhabits the *Cape of Good Hope*; 7 inches long.
Bill, crown and legs black.
- Ruficaudus*. Above olive, beneath purplish-white; quill and tail-feathers black, lateral ones the greater part rufous. *Rufous-tailed T.*
Inhabits the *Cape of Good Hope*; 7 inches long.
Bill curved at the tip, and legs black; lateral tail-feathers; and upper coverts wholly rufous.
- Malabari-cus*. Grey-ash, beneath reddish-brown; quill-feathers and bill black; legs yellow. *Malabar T.*
Inhabits *Malabar*: 8 inches long.
Bill yellowish at the tip; feathers of the head and neck long and narrow, with a white streak down the middle of the shaft.
- Pagoda-rum*. Black; back and rump grey; vent white; head crested. *Pagoda T.*
Inhabits *Malabar* and *Coromandel*, chiefly about the turrets of temples and pagodas; size of a finch.
Bill black tip with yellow; irids glaucous; feathers of the head, neck and lower part of the body long and narrow; legs and claws yellow.
- Cayanensis*. Cinereous, beneath whitish; vent white; greater wing-coverts and quill-feathers black; chin, bill and legs footy. *Cayenne T.*
Inhabits *Cayenne*; 8 inches long.
Feathers of the upper part of the body edged with white, of the lower black in the middle; lesser quill-feathers and wing-coverts edged with ferruginous.
- Variegatus*. Above brown, beneath whitish; feathers mixed whitish and black. *Variegated T.*
Inhabits *Surinam*; size of a lark.
- Striatus*. Varied with yellow and grey; a yellow stripe down the back. *Yellow-backed T.*
Inhabits *Surinam*; size of the last.

Fuzo

- Fuscus.* Olive-brown; breast and belly whitish, spotted with brown; primary quill-feathers and legs black. *Brown T.*
Inhabits *New York*; size of *T. iliacus*.
- Mustelinus.* Tawny, beneath white spotted with black; cheeks brown, spotted with white; rump, primary pointed quill and tail-feathers brown. *Tawny T.*
Inhabits *New York*; size of the last.
- Calliope.* Rusty-brown, beneath yellowish-white; chin cinnabar, edged with white and black; lores black; eyebrows white. *Ruby-throat T.*
Inhabits *Kamtschatka* and *Siberia*; 6 inches long.
Bill black; space between the bill and eyes black; tail a little wedged; chin sometimes white.
- Nerius.* Head and pectoral band black; streak from the eyes to the hind-head ferruginous; body above cinereous, beneath ferruginous. *Spotted T.*
Inhabits near *Nootka Sound*; 10 inches long.
Bill black; greater wing-coverts with a triangular rusty spot near the tip; quill-feathers black, with 2 rusty spots on the outer side; legs yellow.
Female; chin and throat cinereous, mixed with white; pectoral band o; body beneath red, growing white towards the vent.
- Hudsonicus.* Blueish-ash; bill and legs black; feathers of the crown and nape, wing-coverts and primary quill-feathers edged with pale rufous. *Hudsonian T.*
Inhabits *Hudson's Bay*: $7\frac{1}{2}$ inches long.
- Novaboracensis.* Waved with black and pale ferruginous, beneath blackish; wings and tail glossy green; above and beneath the eyes a black stripe. *New York T.*
Inhabits *North America*; size of a black-bird.
Bill and legs black; tail rounded.
- Ginginius.* Grey; crested head black; wings black-green; primary quill-feathers at the base and tip of the tail rufous; above the eyes a naked yellow band. *Gingi T.*
Inhabits *India*: size of the mistle thrush.
Bill and legs yellow.

Dauma. With black crescents, above brown, beneath white; lesser wing-coverts black, varied with white; primary quill-feathers brown tipped with cinereous. *Dauma T.*
Inhabits *India*; feeds on fruits; very voracious.

Speciosus. Black; belly, hind-part of the back, middle wing-coverts, 3 spots on the quill-feathers and lateral tail-feathers scarlet. *Black and scarlet T.*
Inhabits *India*; 8½ inches long.

Minutus. Above rusty-brown, beneath rusty-ash; chin whitish; wings and tail marked with black and ferruginous. *Minute T.*
Length 3½ inches. Bill and legs brown; primary quill-feathers blackish, the rest black and transversely ferruginous in the middle; 4 upper tail-feathers black, lower ferruginous.

Curæus. Glossy black; bill substriate; tail wedged.
Inhabits *Chili*: size of *T. viscivorus*; sings finely, and imitates the notes of other birds, and when tamed the voice of man; feeds on worms and seeds and on smaller birds, which it kills by perforating the skull with its bill; lays 3 blueish-white eggs.
Bill, eyes, legs and flesh black; tail 5 inches long.

Nitens. Green, with a glossy violet spot on the wing-coverts. *Shining T.*
2. Green, beneath violet; chin and rump blue.
Inhabit *Angola* and *Cape of Good Hope*; 19 inches long.
Bill and legs black.

Æneus. Shining green, beneath copper; head blackish-gold; rump and 2 middle tail-feathers purplish; tail wedged. *Glossy T.*
Inhabits near the *Senegal*: 18 inches long.
Bill and legs black; tail 11 inches long.

Auratus. Violet; back and wings gold-green; band on the inner edge of the wings, tail and its upper coverts blue. *Gilded T.*
Inhabits *Whidah* in *Africa*: size of a blackbird.
Bill brown; irids yellow; legs tawny.

Leucogaster

Leucogaster. Violet; belly white; quill-feathers blackish; bill and legs cinereous. *Whidah T.*
Inhabits *Whidah* in *Africa*; 6½ inches long.

• *Rosens.* Pale rosy; head, wings and tail black; hind-head crested. *Rose-coloured T.*
Inhabits *Europe* and *Asia*, rarely in *England*; about 8 inches long; feeds chiefly on locusts, for which reason it is held sacred by the *Turks*.
Bill flesh-colour, blackish at the tip; *irids* pale; *head*, *crest*, *neck*, *wings* and *tail* black, with a changeable gloss of blue, purple and green; *legs* reddish.

Leucurus. Black; rump and tail white, the feathers of the latter tipped with black. *White-tailed T.*
Inhabits round *Gibraltar*; 8 inches long.
Bill lead-colour; 2 middle *tail-feathers* on the lower half black; *legs* and *claws* yellowish.

Caster. Blackish, subcrested; rump and belly white; vent red. *Cape T.*
2. Above brownish-ash, streaked with brownish, beneath hoary; head black; 3 lateral tail-feathers tipped with white.
Inhabits *China* and *Cape of Good Hope*; 8 inches long.
Bill blackish; *head* and *crest* violet-black; feathers of the upper part of the *body* brown, edged with grey; *throat* and *breast* brown, with a violet gloss; *wings* and *wedged tail* brown the latter tipped with white.

Macrourus Purplish shining black, beneath tawny-ferruginous; rump and 3 outermost tail-feathers each side white. *Long-tailed T.*
2. Two middle tail-feathers black, the rest half white.
Inhabits *India*; 11½ inches long.
Bill and *claws* black; 2 middle *tail-feathers* longer than the rest by 3 inches; *legs* yellowish.

Amboinen. Chestnut, beneath yellow; secondary quill-feathers from the base to the middle yellowish; tail wedged, beneath tawny. *Amboina T.*
Inhabits *Amboina*; larger than a lark; sings finely, and in breeding-time reflects the tail on the back.

Borbonicus Olive-ash; crown black; belly and vent olive-yellow; tail brown, with 2 pale bands near the tip.

Bourbon T.

Inhabits the island *Bourbon*: near 8 inches long.

Bill and legs yellowish; middle of the belly white; quill-feathers brown, edged with reddish.

Ochrocephalus. Greater quill-feathers, tail and legs green; crown and cheeks yellowish; lores black; belly and breast cinereous, the latter varied with arrowed spots.

Yellow-crowned T.

Inhabits *Ceylon* and *Java*; is often tamed, and imitates the voices of other birds.

Bill black; spots on the breast white and black.

Orientalis. Black, beneath white; rump cinereous; ocular band black; 3 outermost tail-feathers each side white on both webs.

Ash-rumped T.

Inhabits *India*; $6\frac{1}{2}$ inches long.

Bill black; temples white; legs and quill-feathers blackish, the primary on the inner side from the base to the middle, the secondary on the outer side white; tail somewhat wedged.

Nigerrimus. Black, the feathers edged with yellow; cheeks and chin silky.

Black-cheeked T.

Inhabits *Madagascar*; $5\frac{1}{4}$ inches long.

Hispaniolensis. Olive, beneath varied with olive and grey; tail-feathers brown, the inner edge whitish the outer olive, the middle ones entirely olive.

Hispaniola T.

Inhabits *St. Domingo*: 6 inches long.

Bill and legs grey-brown; quill-feathers and greater wing-coverts brownish, the outer edge olive, the inner whitish.

Albifrons. Dark lead-colour, beneath pale yellow; front with a white spot; legs brown.

White-fronted T.

2. Black, beneath and spot each side the hind-head white.

Inhabits *New Zealand*; near 7 inches long.

Capensis. Brown; belly yellowish; vent pale yellow.

Brunet T.

2. Head and chin black.

Inhabits the *Cape of Good Hope*; $7\frac{1}{4}$ inches long.

Atricapit-

*Atricapit-
lus.* Brown; head black; belly and rump rufous; wings with
a white spot. *Black-capped T.*
Inhabits the *Cape of Good Hope*; 9 inches long.
Sides of the belly with brown streaks; tail wedged, the feathers
pale at the tips.

*Mauritia-
nus.* Deep greenish-blue; feathers of the head and neck nar-
row, long; bill cinereous; legs lead-colour. *Maritius T.*
Inhabits the *Isle of France*: 7 inches long.

*Mindana-
nensis.* Steel-blue, beneath white; wings with a longitudinal
white band; tail a little wedged. *Mindanao T.*
Inhabits *Mindanao*; 7 inches long.
Bill lead-colour; legs brown.

*Madagaf-
carensis.* Brown; belly and vent white; tail subforked; 2 middle
tail-feathers wholly, the rest on the outer edge gold-
green, the outermost each side on the outer edge
white. *Madagascar T.*
Inhabits *Madagascar*: 7½ inches long.
Bill and legs black; rump greenish; breast and flanks reddish-
brown; quill-feathers blackish, 2—6 on the outer side partly
white, partly violet, the secondaries black, varied with violet
and green.

*Senegalen-
sis.* Grey-brown; belly whitish; wings, tail, bill and legs
brown. *Senegal T.*
Inhabits near the *Senegal*; 8 inches long.

*Longirof-
tris.* Pale olive-brown, beneath pale sulphur; rounded tail yel-
low, the middle feathers brown. *Long-billed T.*
Inhabits the islands *Eimeo* and *York*: 9½ inches long.
Bill 1½ inch long, hardly notched at the point, and with the
legs brown flesh-colour; toes long; hind-claw large; fea-
thers of the head short, pointed; wing-coverts and quill-fea-
thers edged with yellowish.
Body sometimes waved with brown and pale tawny.

Griseus. Grey; crown and neck above whitish; breast, belly and
vent pale grey-red. *Grey T.*
Inhabits

Inhabits *Coromandel*; less than a blackbird; feeds on worms and insects which it searches for with its bill.
Bill pale ochre; *legs* yellowish.

Palmarum Green-olive, beneath pale ash; head black with 3 white spots each side. *Palm T.*

2. Head totally black.

Inhabits the palm groves of *Cayenne*: $6\frac{1}{2}$ inches long.
Legs, crown and *bill* cinereous; *chin* white; *quill-feathers* brown, edged with olive.

Monacha. Above olive, tinged with brown, beneath yellowish; head black, the black reaching to the breast and ending in a point. *Nun T.*

Inhabits woods of *Abyssinia*: size of a blackbird; feeds on berries and fruits, and frequents trees growing near precipices.
Bill reddish; *wing-coverts* and *tail-feathers* brown, edged with yellow; *quill-feathers* blackish, edged with pale grey.

Æthiopicus. Black, beneath white; wings with a transverse white band; tail rounded, the feathers square at the tips. *Ethiopian T.*

Inhabits woods of *Abyssinia*: size of *T. iliacus*.

Abyssinicus Brown, beneath tawny; chin brownish; legs black. *Abyssinian T.*

Inhabits *Abyssinia*: size of the last.

Pectoralis. Brown; lower part of the neck and breast reddish-yellow. *Yellow-breasted T.*

Inhabits *Cayenne*: 5 inches long.

Cochinchinensis. Green, with blue spots at the base of the bill each side; face, chin and throat black, the latter surrounded with a yellow arch. *Black-chinned T.*

Inhabits *Cochinchina*: size of the last.

Bill and *legs* black; towards the *tail* and the outer edge of the *quill-feathers* inclining to blue.

Cinnamomeus. Cinnamon, beneath paler; legs, temples, cheeks, chin, throat, breast and wing-coverts black; collar waved with white. *Black-breasted T.*

Inhabits

Inhabits *Cayenne* : about 7 inches long.

Lesser wing-coverts tipped with white, the rest with rufous ; tail about 2 inches long.

Rufifrons. Brown, beneath, front and temples rufous ; vent white ; tail and legs cinereous. *Rufous T.*

Inhabits *Cayenne* ; 6½ inches long.

Bill blackish ; wing-coverts black tipped with yellow.

Cantans. Reddish-brown, varied with transverse dark streaks, beneath whitish ; chin, cheeks and throat reddish-orange ; a black blotch, spotted with white each side the neck. *Musician T.*

Inhabits woods of *Cayenne* ; 4 inches long ; is solitary, and feeds on ants and other insects, and is celebrated for its sweet and variable note.

Bill black ; tail an inch long ; legs yellowish.

Coraya. Reddish-brown, beneath paler ; crown and sides of the head and neck black ; tail grey, with blackish lines. *Barred-tailed T.*

Length 5½ inches ; beneath the eyes some white streaks ; chin and throat white ; tail 2 inches long ; legs yellowish.

Fuscipes. Cinereous, beneath rufous ; crown black ; legs and wings brown ; tail a little wedged. *Buff-winged T.*

Inhabits *Cayenne* ; 6½ inches long.

Tail 2½ inches long ; wing-coverts buff-colour.

Alapi. Olive-brown ; throat and breast black ; belly cinereous ; wedged tail blackish. *White-backed T.*

Inhabits thick woods of *Cayenne* : 6 inches long ; has a harsh note, and feeds on ants.

Legs yellowish ; wings brown-ash, the coverts spotted with white.

Male with a white spot in the middle of the back.

Female without the white spot ; chin white, rest of the body beneath and wing-coverts at the tips reddish.

Irratus. Cinereous ; tail wedged, edged and tipped with white ; crown crested ; chin varied with white and black ; throat and breast black. *Black-crested T.*

Inhabits

Inhabits *Cayenne*: 6 inches long.

Irids black; *wing-coverts* mostly tipped with white; *crest* moveable, in the male black, female rufous.

Tintinnabulatus. Brown, beneath and rump reddish-tawny; chin white; cap and cheeks white, spotted with black; eyebrows and streak behind the eyes black. *Chiming T.*

Inhabits woods of *Cayenne* and *Guiana*: 4 inches long; its note is like the chiming of bells.

Bill above black, beneath white: *breast* spotted with black, *wing-coverts* with white; *legs* black.

Bambla. Spotted; above reddish-brown, beneath cinereous; wings black, with a transverse white bar. *Black-winged T.*

Inhabits *Cayenne*: $5\frac{1}{2}$ inches long.

Bill black; *tail* black, $\frac{1}{2}$ an inch long; *legs* blackish-brown.

Auritus. Reddish-olive, varied with brown; belly white; chin and throat black; crown and pectoral band reddish-brown; stripe on the sides of the neck silvery. *White-eared T.*

Inhabits *Cayenne*: hardly 5 inches long.

Bill and *legs* blackish.

Female with a broader collar; *ocular band* greenish; chin and throat white.

Colma. Reddish-brown, beneath cinereous; crescent on the nape rufous; throat varied white and black; spot on the nostrils and chin white. *Rufous-necked T.*

2. Crown and nape rufous; body deep brown.

Inhabits *Cayenne*: near 7 inches long.

Bill blackish; *nape* rufous; at the base of the nostrils a white spot; *legs* chestnut.

Tinniens. Above brown, beneath white; breast spotted with black; tail even. *Alarum T.*

Inhabits *Cayenne*: $6\frac{1}{4}$ inches long; every morning and evening for the space of an hour cries with a harsh loud voice like an alarum bell.

Bill above black, beneath white; *legs* pale lead.

Lineatus. Olive-brown; chin, throat and breast white, the latter spotted with brown; sides of the neck with white lines. *Speckled T.*

Inhabits

Inhabits Cayenne ; $5\frac{1}{2}$ inches long.

Bill and legs brown ; wing-coverts with reddish spots.

Formicivorus. Above reddish-brown, beneath cinereous ; chin, throat and breast black, surrounded with a black and white band.

Ant T.

2. Throat rufous, edged with black ; tail tip with black ; between the shoulders a white spot.

3. Throat white, black in the middle.

4. Belly and vent cinereous ; thighs reddish-brown.

Inhabits Cayenne ; 6 inches long ; is very active ; does not continue long on the wing, and climbs trees like the creeper ; is very fond of ants.

Bill, middle of the back and wings black ; irids reddish ; area of the eyes blue ; tail very short, rufous, the coverts mostly tipped with reddish-yellow ; spurious wings white.

Cyanurus. Chestnut, beneath varied with alternate transverse blue and yellow streaks ; crown as far as the nape, quill-feathers and ocular band black, with another orange ; pectoral band and wedged tail blue. *Blue-tailed T.*

Inhabits Guiana : $8\frac{1}{2}$ inches long.

Bill and legs brown ; chin and throat yellowish ; greater wing-coverts tipped with white.

Hex. Reddish-brown, beneath paler ; hind-head lead-colour ; front varied white and brown. *King T.*

Inhabits South America, near the hillocks raised by the termites or white ants, on which it feeds ; $7\frac{1}{2}$ inches long.

Bill brown ; quill-feathers black ; vent white ; streak at the side of the lower mandible and triangular spot in the middle of the breast white ; legs reddish, naked above the knees ; has a great affinity to the crow tribe, but has no recumbent feathers on the nostrils.

Sinenfis. Reddish ; head streaked with brown ; eyebrows white ; tail-feathers brown, with darker streaks ; legs yellow.

Chinese T.

Inhabits China : resembles *T. iliacus*, but is less.

Body above reddish-brown, beneath reddish-yellow ; bill yellowish ; head and neck longitudinally streaked with brown ; tail rounded.

Arcuatus. Above chestnut; eyebrows, lores, chin and vent white; cheeks and crescent on the throat white; tail rounded, black towards the tip and tip with white.

Crescent T.

Inhabits *China*; 11 inches long.

Bill and *legs* lead-colour; behind the *eyes* a tuft of lax, white feathers; *belly* reddish-white; *claws* white.

Melanopsis. Grey; back and wings greenish-brown; orbits, chin and throat black; ears with a white spot.

Black-faced T.

Inhabits woods of *China*; size of a blackbird.

Bill black; *legs* brown.

Nilaceus. Violet-blue; feathers of the head, neck, breast and wing-coverts barred at the tip with steel-blue; bill and legs black.

Violet T.

Inhabits *China*; size of a blackbird.

Irids red; 2 of the *wing-coverts* with a white band.

Leucocephalus. Grey; quill-feathers black, the lesser, wing-coverts and tail copper-green with a violet gloss.

White-headed T.

Inhabits *China*; less than the last.

Bill blackish, tinged with red and yellow; *legs* yellow; *wing-coverts* spotted with white; feathers of the head and neck, long, narrow, in the male white.

Nigricollis. Brown; head, chin and nape white; ocular band and breast yellowish; neck, lower part of the back and quill-feathers black; wedged tail lead-colour.

Black-necked T.

Inhabits *China*; 9 inches long.

Bill and *legs* black; secondary *quill-feathers* tip with white.

Boubil. Brown; behind the eyes a longitudinal black band.

Chanting T.

Inhabits *China*; less than the blackbird; sings finely, and is the only song-bird the Chinese have.

Bill and *legs* yellowish-grey.

Perspicille

- Perispicillatus.* Head and neck cinereous; front and crescent under the eyes black; body above greenish-brown, beneath yellowish-white. *Spectacle T.*
Inhabits China; $8\frac{1}{2}$ inches long.
Bill blackish; tail somewhat wedged, the 2 middle feathers greenish-brown, the rest darker; legs yellow.
- Flavus.* Yellow; orbits white; from the upper mandible reaching behind the eyes a black band; bill and legs red. *Yellow T.*
Inhabits China: size of a blackbird.
Irids grey; shaft of the feathers white.
- Citrinus.* Cinereous; head, neck, breast and belly tawny; vent and spot on the wings white. *Orange-headed T.*
Inhabits India; $8\frac{1}{2}$ inches long.
- Viridis.* Green; eyebrows, spot beneath the eyes, belly and vent white; chin grey, spotted with white; breast reddish. *Green T.*
Inhabits China; 7 inches long; washes itself in water.
Bill black, beneath yellowish, tip with brown; tail even; legs and claws yellowish.
- Ater.* Grey-brown, beneath greenish-yellow, spotted with black; bill, legs, front, face, chin and throat black, the latter edged with rufous. *Black-throated T.*
Inhabits St. Domingo; $7\frac{1}{2}$ inches long.
Crown rufous; greater wing-coverts and quill-feathers blackish-brown, edged with pale grey; rump greenish-yellow; tail 3 inches long, rounded, blackish-brown, the lateral feathers blackish at the edges.
- Dominicus.* Brownish, beneath white; primary quill-feathers white at the base; 3 outmost tail-feathers white. *St. Domingo T.*
Inhabits St. Domingo and Jamaica; $8\frac{1}{4}$ inches long.
Bill and legs blackish.
- Brahiensis.* Black, beneath yellowish-rusty; rump ferruginous; tail somewhat wedged, the outmost feathers wholly, the rest tip with white. *Yellow-bellied T.*
Inhabits Brazil: size of the last.
Wings with a transverse white band; legs brown.

**Merula*. Black ; bill and eyelids yellow.

Blackbird.

2. Head white.
3. Variegated with black and white.
4. Body wholly white.

Inhabits *Europe* and *Asia* ; frequents hedges and thickets near inhabited places, and makes its nest of moss, grass, &c. lined with clay and covered again with hay ; lays 4—5 blueish-green eggs, with irregular dusky spots ; the note of the male is very fine and loud.

Female and young male rusty-black ; bill dark.

Aurantius. Blackish-brown ; chin and belly whitish ; bill and legs orange.

White-chinned T.

2. Chin the colour of the body.
3. Body black ; bill and legs tawny.

Inhabits *Jamaica*, 2) *New South Wales*, 3) *Surinam* ; size of a blackbird ; feeds on fruit and insects ; fat yellow.

Americanus. Shining violet, beneath dusky ; quill-feathers tipped with rufous ; bill and legs pale yellow.

American T.

Inhabits *America* : size of the last. *Female* grey.

Labradorus. Shining black, with a blue and violet gloss ; bill and legs black.

Labradore T.

Inhabits *Labradore* ; $8\frac{1}{2}$ inches long.

Female, back blackish, breast grey.

**Torquatus*. Blackish ; bill yellowish- ; collar white.

Ring-euzel.

2. Blackish-brown, the edges of the feathers grey ; above the breast a reddish transverse stripe ; quill-feathers blackish.

Rock-euzel.

Inhabits *Europe*, *Asia* and *Africa* ; 11 inches long ; migrates in flocks, and feeds on insects and berries.

Bill blackish ; *mouth* yellowish within ; *legs* brown.

Insularis. Blackish, varied with brown and reddish ; head cinereous, spotted with reddish ; lateral tail-feathers rufous.

Rock T.

Inhabits *Southern Europe* ; size of *T. viscivorus*.

Feathers of the head and back cinereous at the tips ; 2 middle tail-feathers edged with rufous, lateral ones rufous, with a little blackish on the outer side near the tip.

Saxatilis.

Saxatilis. Head blue ; tail ferruginous. *Lesser Rock T.*

Inhabits *Austria* and *Prussia* : less than the last ; builds among rocks, and lays 5 blue-green eggs ; wags its tail and feeds on insects.

Breast, *belly*, *rump*, *base* of the *wings* beneath, *tail* and *thighs* ferruginous ; *base* of the *wings* above blackish ; 2 middle *tail* *feathers* more dusky.

Fremita. Orbits white ; crown olive ; feathers of the hind-head and nape brown, near the tip whitish barred with black, of the lower part of the body reddish-white, edged with brown ; rump cinerous. *Hermit T.*

Inhabits *Philippine Islands* ; $7\frac{1}{2}$ inches long.

Bill, *quill-feathers*, *tail* and *legs* brown.

Manillensis Blue-ash ; rump blue ; wings and tail blackish-brown ; body beneath rufous, spotted with brown and whitish. *Penfive T.*

Inhabits *Manilla* : 8 inches long.

Bill brown ; *legs* blackish.

Female brownish, spotted with brown.

Solitarius. Brown, dotted with whitish ; cheeks, neck, breast and wings clouded with blue ; tail blackish. *Solitary T.*

Inhabits *Europe* ; 8—9 inches long ; is solitary and frequents mountainous rocks ; feeds on insects and berries ; sings delightfully.

Female brown, dotted with dirty-yellow ; *wings* and *tail* brown.

Cyanus. Feathers edged with pale blue ; mouth and eyelids pale yellow. *Blue T.*

Inhabits *Asia* and *Italy* ; 8 inches long.

Bill blackish ; *feathers* towards the tips with a brown band and tip with white ; *quill-feathers*, *tail* and *legs* brown.

Arundinaceus. Rusty-brown, beneath white-testaceous ; quill-feathers brown tip with reddish. *Reed T.*

2. Rump and tail rufous.

3. Varied above with black arrow-shaped spots.

4. Above yellowish-green ; wing-coverts ferruginous.

Inhabits

Inhabits reedy marshes of *Europe*; builds a hanging nest among the reeds, and lays 5—6 yellowish-white eggs, spotted with brown; the male sings while the hen is sitting; 7 inches long.

Chin and throat white; bill, wings and legs brown.

Morio. Shining black; primary quill-feathers rufous tip with black. *African T.*

Inhabits the *Cape of Good Hope*; 11 inches long.

Bill black; legs brown.

Bicolor. Brown, tinged with green; belly and vent white.

White-rumped T.

Inhabits the *Cape of Good Hope*; 10 inches long.

Erythrop-terus. Black; wings rufous; lower tail-coverts and feathers, except the middle-ones, tip with white; tail wedged.

Rufous-winged T.

Inhabits near the *Senegal*; 10 inches long.

Chrysogaster. Green, tinged with orange, beneath orange; bill and legs brown. *Orange-bellied T.*

2. Blueish-green, beneath orange.

Inhabits the *Cape* and near the *Senegal*; 8 inches long.

Some of the quill-feathers white on the outer side.

Urovang. Cinereous; crown greenish-black; rest of the head, neck, breast and body above inclining to olive; belly and vent yellowish. *Cinereous T.*

Inhabits *Madagascar*; 8½ inches long. *Legs brown.*

Surinamus Shining black; crown, rump and lateral spot on the breast pale yellow. *Surinam T.*

Inhabits *Surinam*; 6½ inches long.

Inner and lower wing-coverts white; bill and quill-feathers blackish, the latter mostly yellow at the base within; legs brown.

Columbinus Green, reflecting various hues.

Pigeon T.

Inhabits the *Philippine Islands*; size of *T. musicus*; frequents pigeon-houses; varies in having the rump and vent white.

Domini.

Dominica-nus. Above brown, here and there tinged with violet or steel-blue, beneath reddish-white; tail steel at the base, greenish towards the tip. *Dominican T.*

Inhabits the *Philippine Isles*; 6 inches long.

Bill and legs brownish; head brownish-white; wings long, when folded nearly reaching to the tip of the tail.

Cantor. Greenish-black, shining with blue or violet; wings and tail black. *Songster T.*

Inhabits the *Philippine Isles* in numerous flocks; sings very finely, and often lays in pigeon-houses.

Irids red; feathers of the head and neck long, narrow.

Malabaricus. Shining-green; front yellow; chin, bill and legs black; wing-coverts and streak on the lower mandible blue.

Yellow-fronted T.

Inhabits *Malabar*; size of a common finch.

Irids yellow; female, chin azure; body yellowish.

Silencis. Bill and legs yellowish; belly and back scarlet; tail, wings and thighs brown. *Scarlet-bellied T.*

Inhabits *Smyrna*; less than *T. pilaris*.

Zeylonus. Green, beneath pale yellow; crescent on the breast black. *Ceylon T.*

Inhabits *Ceylon*: $7\frac{1}{2}$ inches long.

Bill black; crown olive-ash; body above olive-green.

Female wants the ocular line and crescent on the breast, above and beneath greenish-yellow; tail wedged, lateral feathers black tip with yellow; legs blackish.

78. AMPELIS. Bill straight, convex, sub-incurved, each mandible notched: nostrils covered with bristles: tongue sharp, cartilagenous, bifid: middle-toe connected at the base to the outmost. *Chatterer.*

**Carrulus.* Hind-head crested; secondary quill-feathers tip with red horny appendages. *Waxen C.*

2. Belly yellowish.

Inhabits

Inhabits *Europe, Northern Asia and America*; 8 inches long; migrates in flocks, and feeds on berries; flesh good.

Bill and legs black; *irids bright ruby*; *cheeks tawny*; *throat black*, with a small bristly tuft in the middle; *head and body above reddish-ash*; *ocular line and chin black*; *breast and belly pale purplish-bay*; *lesser wing-coverts brown*, greater remotest from the body black tip with white; *quill-feathers black*, 3 first tip with white, 6 next with $\frac{1}{2}$ inch of the exterior edge yellow, inner white; *tail black* tip with yellow.

Pompadour. Purple; *left wing-coverts ensiform, elongated, carinate, rigid.* *Pompadour C.*

2. Brown-purple; vent rosy; tail brown.

Inhabits *Guiana*; $7\frac{1}{2}$ inches long; builds on branches of trees hanging over water; feed on fruits.

Bill brown; *legs black.*

Carnifex. Red; *ocular band and tips of the quill and tail-feathers black.* *Red C.*

Inhabits *South America*; 8 inches long.

Bill, temples, neck, back and legs brown; *throat brownish-purple*; *head crested*, with small, pointed feathers; *lesser wing-coverts yellow*, edged with brown; *secondary quill-feather and coverts yellow*, primary and coverts and *spurious wing* black; *tail rounded.*

Corcinea. Scarlet; *cap purple*; *neck and back olive*; *tail-feathers edged with green.* *Scarlet C.*

Inhabits *South America*; resembles the last in size and manners; feathers covering the *head larger*; *cheeks with pale tawny feathered whiskers*; *wings longer.*

Cotinga. Fine blue, beneath purple; wings and tail black.

Purple-breasted C.

Inhabits *Brazil*; $8\frac{1}{4}$ inches long.

Bill black; *throat with 3—4 scarlet stripes*; *breast purple*, (in the female blue) surrounded with a blue and another scarlet band; *belly and vent blue*; *legs blackish.*

Maynana. Fine blue; chin violet.

Silky C.

Inhabits *South America*; $7\frac{1}{4}$ inches long.

Feathers of the *head and neck long, narrow, brown at the base*; feathers of the rest of the *body mostly white at the base and violet in the middle*; *wings and tail blackish-brown*; *legs black.*

Cayana.

Cayana. Fine blue; neck beneath violet; quill and tail-feathers black, edged with blue. *Purple-throated C.*

Inhabits Cayenne; $8\frac{1}{2}$ inches long.

Bill and legs black; feathers chiefly black tipped with blue-green; chin and throat purplish-red.

Terfa. Fine blue; back black; belly yellowish-white. *Blue-breasted C.*

Inhabits South America.

Head, shoulders, wings and tail black; quill-feathers blueish on the outer edge; chin, breast, hind-part of the back and band on the wing-coverts pale blue; sides of the belly spotted.

*Caruncu-
lata.* Bill black, with a pendulous, expansile, moveable caruncle at the base. *Carunculated C.*

Inhabits Cayenne and Brasil; 12 inches long.

Legs black. Male snowy; rump, tail and wings a little yellowish. Female above olive; front and cheeks white, beneath yellow; 2 middle tail-feathers olive, the rest grey, edged with yellow.

Variegata. Cinereous; throat with 2 black lanceolate caruncles. *Variegated C.*

Inhabits Brasil; size of a mistle thrush.

Bill black; gape of the mouth large; irids glaucous; head brown; lesser wing-coverts black, greater varied with black and green; quill-feathers and legs blackish; tail cinereous, varied with blackish and green.

Female blackish, without the caruncles.

Cinerea. Grey-ash, beneath paler; bill and legs red. *Grey C.*
Inhabits Cayenne: 8 inches long.

Vanicea. Blue-black; lesser wing-coverts scarlet-tawny. *Red-winged C.*

Inhabits Africa: $7\frac{1}{2}$ inches long.

Wing-coverts edged with yellow.

Alba. Above olive-brown; beneath, rump and lateral tail-feathers pale yellow; spot on the jaws white. *Yellow C.*

Vol. I. — 3 U

Length

Length $6\frac{1}{2}$ inches. *Bill* black ; *legs* blackish ; *belly* whitish on the hind-part ; 2 upper *tail-feathers* black, yellow at the origin and tip with yellowish, the rest yellowish-brown.

Cristata. Head crested ; wings and tail black ; belly and cheeks white ; back red. *Crested C.*
Inhabits *America*.

79. **COLIUS.** *Bill* short, thick, convex above, flat beneath ; upper mandible bent down at the tip : *nostrils* small, at the base of the bill and nearly covered with feathers : *tongue* jagged at the tip : *tail* long, wedged. *Coly.*

Capensis. Outmost tail-feathers white on the outside ; body cinereous, beneath whitish. *Cape C.*
Inhabits the *Cape of Good Hope* ; $10\frac{1}{4}$ inches long.
Bill grey tip with black ; head and neck purplish-ash ; breast vinaceous ; upper *tail-coverts* purplish-bay ; lower *wing-coverts* black ; *legs* grey ; *claws* black.

*Senegalen-
fis.* Grey-vinaceous ; tail blueish ; head crested. *Senegal C.*
Inhabits near the *Senegal* ; $12\frac{1}{2}$ inches long.
Bill grey at the base tip with black ; *crest* sea-green ; wings and tail grey-brown ; middle *tail-feathers* 8, the outer ones hardly an inch long.

*Erythro-
pus.* Blueish-ash, beneath whitish ; head crested ; rump purple with a white streak in the middle ; legs red, all the toes turned forward. *White-backed C.*
Inhabits the *Cape of Good Hope* : 12 inches long.

Striatus. Grey ; belly rufous, with transverse black streaks ; tail green. *Radiated C.*
Inhabits the *Cape of Good Hope* : 13 inches long.
Legs reddish-grey ; 2 middle *tail-feathers* 8 inches long.

Panayensis Yellowish-ash, beneath rufous ; breast streaked with black head crested. *Panayan C.*
Inhabits

Inhabits the *Island Panay*.
Bill black ; *legs* pale flesh-colour.

Veridis. Shining-green ; hind-head and eyelids silky black ; wings
 and tail blackish. *Green C.*

Inhabits *New Holland* ; 12 inches long.
Bill black ; *tail* $7\frac{1}{2}$ inches long.

Indicus. Cinereous, beneath rufous ; hind-head and chin yellow ;
 lores and naked orbits yellow. *Indian C.*

Inhabits *India* : 14 inches long.
Bill black, the base and *legs* red.

80. LOXIA. *Bill* strong, thick, convex,
 rounded at the base ; lower mandible
 bent in at the edge : *nostrils* small,
 round, at the base of the bill : *tongue*
 truncate. *Grosbeak.*

In the *Loxia*, *Emberiza* and *Fringilla* genus both mandibles
 are moveable, by which means they are able to shell and
 break in pieces the seeds they feed upon.

**Curvirof-* Mandibles crossing each other ; body varying in colour ;
bra. wings and forked tail brown. *Crossbill.*

2. Reddish ; head scarlet.

3. Larger ; bill thicker, shorter.

Inhabits *Europe*, *Asia* and *America* ; $6\frac{1}{2}$ inches long ; feeds on
 the cones of pines, the seeds of which it is dexterous in
 shelling by means of its crossed bill, also on hemp seeds and
 the kernels of apples ; builds an hemispherical nest in the
 branches of high trees ; eggs whitish with some red spots to-
 wards the thicker end.

Male red, varied with brown and green, and is said to change
 its colours thrice a year.

Female olive-green, mixed with brown.

Leucoptera Mandibles crossing each other ; feathers whitish, edged
 with red ; rump pale red ; vent whitish ; tail and
 wings black, the latter with 2 white bands.

White-winged G.

Inhabits

Inhabits *North America* ; $5\frac{1}{4}$ inches long.
 Bill horn-colour ; legs brown.

Pittacea. Olive ; quill and even tail-feathers edged with yellowish ;
 lower mandible much shorter. *Parrot-billed G.*

Inhabits *Sandwich Islands* : 7 inches long.

Bill and legs brownish. Male, head and neck yellow.

**Coccothraustes*. Chestnut-ash ; wings with a white line ; middle quill-feathers rhombic at the tips ; tail-feathers black at the base of the thinner web. *Hawfinch.*

Inhabits *Europe*, rarely *England* ; $6\frac{1}{4}$ inches long ; feeds on berries and the kernels of the strongest stones, which it breaks with ease with its very strong bill ; builds in the forked branches of trees and lays 5 roundish, blueish-green eggs, spotted with brown.

Orbits and chin black ; tail spotted with white within.

**Enucletor*. Wings with a double white line ; tail-feathers all black. *Pine G.*

Inhabits northern *Europe*, *Asia* and *America* : 9 inches long ; feeds chiefly on the seeds of pines and firs ; sings in the night.

Head, neck, breast and rump in the young bird red, in the old bird yellow ; female olive.

Macroura. Black ; band on the back and wings reddish-yellow ; tail long, wedged. *Long-tailed G.*

Inhabits *Africa* and near the *Senegal* ; 7 inches long.

Bill and legs black.

Aurea. Black ; back golden ; wing-coverts pale brown, spotted with black. *Gold-backed G.*

Inhabits *Africa* ; 6 inches long. Legs blueish.

Rubicilla. Scarlet, spotted with white ; belly and vent rosy ; greater wing-coverts brown ; tail black. *Caucasian G.*

Inhabits mountains of *Caucasus* ; 8 inches long.

Feathers of the body cinereous at the base, giving the plumage a waved appearance.

**Pyrrhula*. Cinereous ; head wings and tail black ; coverts of the tail and hindmost quill-feathers white. *Bullfinch*

2. Entire

2. Entirely black.
3. White ; back with a few black spots.
4. White ; head, neck, breast and belly rosy.

Inhabits *Europe* ; hardly 6 inches long ; frequents gardens in the spring and is very destructive to fruit trees by eating the young buds ; when tamed is easily taught to whistle any tune, and even to speak.

Crown black ; breast cinereous ; belly in the male red, in the female chestnut.

Cardinalis. Crested, red ; frontlet black ; bill and legs blood-red.

Cardinal G.

Inhabits *North America* ; nearly 8 inches long ; sings very finely in spring and summer ; feeds on grain and Indian corn, which it hoards up.

Bill and legs pale rosy ; crest, when erect, pointed.

Carlsoni. Red ; chin black ; rump, tail, wings and legs brown.

Inhabits islands of the *Indian Ocean* ; resembles the last, but is not crested.

Buteonensis. Crested, red ; frontlet red ; bill and legs yellow.

Indian G.

Inhabits *India* ; 8 inches long.

Toes long ; claws sharp, pointed ; wing-coverts dark.

Madagascariensis. Red ; ocular band black ; back spotted with blackish.

Madagascar G.

Inhabits *Madagascar* ; $5\frac{1}{2}$ inches long.

Bill black ; wings and tail brown edged with olive, the young bird at first olive and gradually growing red.

Mexicana. Red ; wings and tail black.

Mexican G.

Inhabits *New Spain* ; $6\frac{1}{2}$ inches long.

Brasiliana. Brown, beneath reddish with spots annulate with black ; head and middle of the belly red ; crescent on the nape and tip of the tail white.

Brasilian G.

Inhabits *Brazil* ; $5\frac{1}{2}$ inches long.

Bill flesh-colour ; wings and tail black ; wing-coverts and secondary quill-feathers reddish at the tips.

Domini.

Dominicana. Black; head and chin scarlet; breast, belly and edge of the quill-feathers white. *Dominican G.*

2. Cinereous, beneath snowy; fore-part of the head and throat red; tail-feathers black edged with cinereous, the outmost white on the outer edge.

Inhabits *Brazil*; size of a lark.

Neck above blackish; back, rump and wing-coverts grey, a little spotted with black; vent and sides of the neck whitish; wings and tail black; legs cinereous.

Cucullata. Cinereous; crested head and chin scarlet; breast and belly white; tail long, the lateral feathers blackish.

Crested Dominican G.

Inhabits *Brazil*; a little less than the last.

Crest, when erect, sharp-pointed.

Sibirica. Red, above spotted with brown; frontlet purple; wings a double oblique band; outmost tail-feathers white.

Siberian G.

Inhabits thickets near the torrents in *Siberia*: size of *L. linaria*; is very restless, and gregarious in winter.

Feathers of the head silvery at the tip.

Female and male, when young, brown, beneath reddish.

Virginica. Head, neck, middle tail-feathers and body beneath red; belly yellow; nape, lower part of the back, wings and lateral tail-feathers olive. *Yellow-bellied G.*

Inhabits *Virginia*. Bill yellow.

Cristata. Whitish; front crested; rump and legs red; middle tail-feathers very long. *Crested G.*

Inhabits *Ethiopia*: one of the largest of its tribe.

Tail-feathers cinereous, the middle ones twice as long as the lateral ones; crest and breast in the male red, female white.

Erythrocephala. Pale ash; head purplish; breast spotted with white. *Paradise G.*

Inhabits *Angola*: near 6 inches long.

Bill and legs flesh-colour; chin red; body beneath and double oblique band on the wings white.

Maja.

- Maja.* Brown ; head white. *White-headed G.*
 Inhabits *Malacca* and *China* ; 4 inches long.
 Head and neck whitish ; 2d and 4th quill-feathers white.
- Flavicans.* Yellow ; back greenish ; head tawny. *Yellow G.*
 Inhabits *Afia* ; size of a Canary-bird.
 Wings and tail greenish-yellow.
- Bonariensis.* Head and neck blue ; body above blackish, beneath yellow ; belly and vent sulphur ; wings and tail blackish, edged with blue. *Marigold T.*
 Inhabits *Bonaria* ; 7 inches long ; flies in pairs.
 Bill blackish ; legs reddish ; claws sharp, curved, grooved, the hind-one very large.
- Oryzivora.* Cinereous ; temples white ; bill red. *Java G.*
 Inhabits *China*, *Java* and *Africa* : 5 inches long ; is very destructive to rice plantations.
 Bill, eyelids and legs red, paler in the female ; head and chin black ; belly pale rosy ; vent whitish ; tail black ; female wings edged with white ; cheeks black.
- Flabellifera.* Chestnut, beneath paler ; bill, wings, tail and legs black. *Fan-tailed G.*
 Inhabits *Virginia* ; about 5 inches long.
- Panicivora.* Black ; spurious wings black ; bill flesh-colour. *White-winged G.*
 Inhabits *Africa* ; $7\frac{1}{4}$ inches long.
 Bill grey ; eyes black ; legs cinereous.
- Malacca.* Bay ; head and belly black ; bill blue. *Malacca G.*
 2. Ferruginous ; head and lower part of the neck black.
 Inhabits *Java* and *China* ; $4\frac{1}{4}$ inches long.
 Breast and flanks white ; legs brown.
- Molucca.* Brownish ; head, throat and tail-feathers black, beneath waved white and black. *Molucca G.*
 Inhabits the *Molucca Isles* ; 4 inches long.
 Bill black ; hind-head brown ; rump waved white and black ; wings and legs brown.

Panda-

- Punctularia.* Bay ; belly black, spotted with white. Cowry G.
Inhabits *Java* : $4\frac{1}{4}$ inches long.
Bill and legs black ; hind-head and back reddish-brown ; breast and flanks black with hearted white spots ; middle of the belly and vent white.
- Undulata.* Brown-red, beneath waved with brown ; tail pale reddish. Eastern G.
Inhabits *Asia* ; 6 inches long. Bill strong, short.
- Hordeacea.* Tawny ; temples white ; tail and breast black. Yellow-rumped G.
Inhabits *India* : size of *Mot. alba*.
Head, neck and rump tawny ; wings, tail and breast black ; shoulders, thighs, vent and edges of the tail feathers brown-ash.
- Sanguinirostris.* Grey, beneath white ; bill and legs red. Red-billed G.
Inhabits *Africa* and *Asia* : size of *Fring. spinus*.
Front and face black ; breast and belly pale ochre, the feathers sometimes blackish in the middle ; wings and tail brown.
- Astrild.* Brown waved with blackish ; bill, orbits and breast scarlet. Waxed-bill G.
2. Rump and vent scarlet.
3. Beneath rosy-white ; crown, neck and back blue ; a scarlet band across the eyes.
Inhabits the *Canaries*, *America* and *Africa* : $4\frac{1}{4}$ inches long ; hides itself under grass and herbs, and feeds on seeds.
Ocular band, middle of the breast and belly red ; body beneath reddish-grey ; tail wedged.
- Leucura.* Bill and legs red ; head and wing-coverts cinereous ; back yellow ; breast and belly yellowish ; tail white, the outmost feathers black. White-tailed G.
Inhabits *Brazil* ; 3 inches long.
- Cyanea.* Blue ; wings and tail black. Angola blue G.
Inhabits *Angola* ? size of *L. cærulea*.
Bill lead-colour ; irids hazel ; legs black.
- Virens.* Greenish ; shoulders blue.
Inhabits *Surinam*.
Wings and tail black, edged with green. [*Angola* ?]

Angolenfis. Black-blue ; belly ferruginous ; wings with a white spot.

Angola G.

Inhabits *Angola* : 5 inches long.

Bill black ; wings edged with white ; legs purplish-flesh-colour.

Ferruginea Head and chin brown ; body above black, beneath ferruginous ; even tail and quill-feathers black, edged with yellow.

Brown-headed G.

Length 6 inches ; bill horn-colour ; legs pale.

Melanura. Head and tail black ; neck above brown ; throat and vent grey ; belly reddish ; vent white ; quill-feathers black, the primaries near the tip, the secondaries on the inner edge white.

Grey-necked G.

Inhabits *China* ; size of the hawfinch.

Bill, irids and legs yellow ; wing-coverts blueish-black with a white spot in the middle.

Female, head grey.

Aurantia. Orange ; crown black ; quill and tail-feathers black edged with orange.

Orange G.

Inhabits *Bourbon* and the *Cape* ; $4\frac{1}{2}$ inches long.

Bill black ; legs reddish.

Female ; head and throat black ; body beneath white.

Torrida. Black ; breast and belly bay ; middle tail-feathers very long.

White-billed G.

Inhabits *South America*.

Lineola. Black ; frontal line and temples white.

Lineated G.

2. Feathers of the lower part of the body curled.

Inhabits *Asia* and *Africa* ; $4\frac{1}{4}$ inches long.

Body above black-blue, beneath white ; bill black with a white spot above the upper mandible ; tail forked ; quill-feathers black, the primary white at the anterior base.

Hamburgia Head and neck above chesnut ; chin, band in the middle of the white throat and rounded tail brown ; back, breast and rump yellowish-brown, spotted with black ; belly, vent and 2 bands on the wing-coverts white.

Hamburg G.

Inhabits

Vol. I. — 3 X

Inhabits round *Hamburg*: $5\frac{1}{4}$ inches long; feeds on insects, and climbs trees like the creeper.

Bill black; *irids* yellow; *quill-feathers* yellowish-brown.

Mexicana. Spotted with brown; front, chin, rump and eyebrows pale yellow. *Yellow-headed G.*

Inhabits *New Spain*: $5\frac{1}{4}$ inches long.

**Chloris*. Yellowish-green; primary quill-feathers edged with yellow; 4 lateral tail-feathers pale yellow at the base.

Greenfinch.

Inhabits *Europe* and *Kamtschatka*; builds in hedges and is easily made tame; lays 5—6 pale green eggs with blood-coloured spots.

Bill brownish; *legs* flesh-colour; *female* browner.

Sinensis. Head and neck greenish-grey; back pale brown; primary quill-feathers the first half yellow, lower part black, secondaries within black, without grey; vent yellow.

Chinese G.

Inhabits *China*: resembles the last.

Bill and *legs* greenish-yellow; *belly* dirty-rufous; *tail* black tip with white.

Butyracea. Greenish; head and back spotted with black, beneath yellow; bill, tail, quill-feathers and legs black.

Yellow-fronted G.

Inhabits *India* and the *Cape of Good Hope*.

Front, *eyebrows* and *temples* yellow; spots on the *female* brown and the *tail* tip with white.

Dominicensis. Green-brown, beneath pale rufous, spotted with brown; vent and area of the eyes white; wings black; tail and legs brown.

St. Domingo G.

Inhabits *St. Domingo*: $5\frac{1}{4}$ inches long. *Bill* reddish.

Africana. Varied with greenish-brown and grey, beneath white; breast varied with brown; primary quill and lateral tail-feathers edged with reddish-white, the outmost with a white spot.

African G.

Inhabits the *Cape of Good Hope*: $6\frac{1}{2}$ inches long.

Upper wing-coverts and edges of the secondary quill-feathers rufous.

Hypoxantha.

Hypoxantha. Yellowish; front and eyebrows pale-yellow; quill and tail-feathers black, edged with yellowish.

Sumatra G.

Inhabits *Sumatra*; size of *Fring. citrinella*.

Bill pale; *irids* rufous; *legs* pale.

Canadensis. Green-olive, beneath yellow-olive; frontlet black.

Canada G.

2. Above blue-grey, beneath pale grey.

Inhabits *Canada* and *Cayenne*; $6\frac{1}{4}$ inches long.

Bill and *legs* cinereous; *chin* black.

Sulphurata. Olive-brown; throat and belly pale yellow; eyebrows yellow.

Brimstone G.

Inhabits in flocks near the *Cape of Good Hope*; $5\frac{1}{4}$ inches long; frequents the banks of rivers, and builds a pendulous nest with a long neck beneath, in trees and shrubs.

Bill horn-colour; *quill* and *tail-feathers* brown, edged with olive, 2 middle *tail-feathers* entirely olive; *legs* brownish-grey.

Flaviventris. Olive spotted with brown, beneath yellow; quill and tail-feathers brown, edged with olive; above the eyes a yellow stripe.

Yellow-bellied G.

2. Hind-head, cheeks and chin cinereous.

Inhabits the *Cape of Good Hope*; less than the last.

Rump olive; *tail* forked; *legs* grey.

Collaria. Yellowish; breast and collar yellow; temples black.

Nun G.

2. Collar broader.

Inhabits *India*, 2) *Angola*; $4\frac{1}{2}$ inches long.

Bill black; *front* bald; *head* and *body* above greenish-blue, beneath and *rump* reddish-white; *pectoral band* spotted, black; *wings* varied with rufous, yellow and black; *tail* black; *legs* brownish.

Grisea. Blue-grey; neck and front white.

Grey G.

Inhabits *Virginia*; 4 inches long.

Bill and *claws* brown; *legs* reddish.

Bengalensis. Grey; crown yellow; temples whitish; belly whitish, spotted with brown.

Bengal G.

Inhabits

3 X 2

Inhabits *Bengal*; $5\frac{1}{2}$ inches long.

Bill flesh-colour; body above and pectoral band brown; legs yellowish; claws grey.

Malabari-ca. Cinereous; quill and tail-feathers black; chin and vent white. *Malabar G.*

Inhabits *India*. Bill black.

Afra. Beneath black; head, flanks and tail-coverts yellow; wings and tail brownish. *Black-bellied G.*

Inhabits *Africa*.

Coffra. Black; quill-feathers brown; shoulders red. Inhabits the *Cape of Good Hope*: size of the bullfinch.

Female, and male in breeding-time cinereous.

Plumage silky; bill brown-ash; quill-feathers at the edges and coverts white; tail longer than the body; legs grey.

Totta. Quill and tail-feathers all black, the very tips white.

Inhabits among the *Hottentots*.

Body brown-testaceous, beneath pale orange; front greenish-brown; 6 primary quill-feathers, 8 secondary, 10 tail-feathers beneath sooty; shanks yellowish; legs black.

Indica. Blackish, beneath whitish; head and neck cinereous; tail tip with white. *Asb-headed G.*

Inhabits *India*: very small. Bill and legs blue.

Asiatica. Reddish-ash, beneath cinereous; belly pale red; head, greater wing-coverts, quill-feathers and tip of the tail black. *Asiatic G.*

2. Blueish-ash; head, wings and tail black; quill and 2 middle tail-feathers tip with white; bill red.

Inhabits *China*; size of the bullfinch.

Bill yellow; tail forked; legs red.

Canora. Dirty-greenish, beneath cinereous; cheeks brown, surrounded with a yellow fringe. *Brown-cheeked G.*

Inhabits *Mexico*; sings charmingly.

Bill black; legs whitish.

Lineata

Lineata. Black, beneath white; sides of the body and base of the primary quill-feathers transversely streaked with white and black. *Radiated G.*

Length 4 inches. *Bill* white; *legs* black.

Perlata. Black, beneath brown; near the tail varied with white and black. *Pearled G.*

Inhabits Africa: resembles the last.

Fasciata. Brownish with black crescents; quill-feathers, tail and cheeks brown; under the chin a broad red band. *Fasciated G.*

Inhabits Africa: $4\frac{1}{2}$ inches long.

Bill blueish-grey; *legs* flesh-colour.

Cantans. Brown, transversely lined with blackish, beneath white; tail brown, wedged. *Warbling G.*

2. Belly yellowish; chin and sides waved white and blackish.

Inhabits Africa: 4 inches long.

Melanoccephala. Pale yellow; head black. *Gambia G.*

Inhabits Gambia: $6\frac{1}{4}$ inches long.

Bill cinereous; *throat* and *irids* black; *legs* blue-ash.

Erythronas. Red; head and chin black. *Black-headed G.*

Inhabits Cayenne: 9 inches long.

Bill black, white at the base; *tail* rounded.

Female above greenish-orange mixed with red, beneath orange; *quill-feathers* olive, the outer edge rufous.

Coronata. Scarlet, beneath blue; crest on the head and spot in the middle of the throat black. *Black-crested G.*

Inhabits America: near 6 inches long.

Cana. Hoary; quill and tail-feathers brown; legs red. *Cinereous G.*

Inhabits Asia: size of a linnet.

Bill cinereous; greater *quill-feathers* white at the base, blackish at the tips; *tail* blackish, edged with pale ash; *legs* flesh-colour.

Philippina. Brown, beneath yellowish-white; crown and breast pale yellow; chin brown. *Philippine G.*

2. Tail

2. Tail and quill-feathers greenish-brown, edged with yellow.

Inhabits the *Philippine Isles*, 2) *Abyssinia*; $5\frac{1}{2}$ inches long; constructs a curious nest with the long fibres of plants or dry grass, and suspends it by a kind of cord, nearly $\frac{1}{2}$ an ell long, from the end of a slender branch of some tree, that it may be inaccessible to snakes or other injurious animals; the interior part consists of 3 divisions; the first is occupied by the male, the second by the female, and the third contains the young; in the first apartment, where the male keeps watch while the female is hatching, a little tough clay is placed on one side, and on the top of this clay a glow-worm, which affords its inhabitants light in the night time.

The nest of 2) is something spiral, with an opening on one side, which is always turned from the rainy quarter.

Head, back and shoulders pale yellow, the feathers brown in the middle; lower part of the back brown, the feathers edged with whitish; belly pale ochre; wing-coverts brown, edged with white; quill and tail feathers brown, edged with reddish or whitish.

Female above brown, beneath reddish.

Abyssinica, Yellowish; crown, temples, throat and breast black; shoulders blackish; quill and tail-feathers brown, edged with yellow. *Abyssinian G.*

Inhabits *Abyssinia*; size of the hawfinch; makes a pyramidal pendent nest, the opening of which is on one side facing the east; it is divided in the middle by a partition, and the nest is within this cavity on one side; by this means it is secure from the intrusion of snakes, squirrels, monkeys and other mischievous animals, and defended from the westerly rains which in this country lasts for 6 months together.

Iris red; wing-coverts brown, edged with grey; legs reddish-grey.

Penfils. Green; head and throat yellow; ocular band green; belly grey; vent rufous-red; bill, legs, tail and quill-feathers black, the last edged with green.

Penfile G.

Inhabits *Madagascar*; size of a house-sparrow; constructs a penfile nest of straw and reeds, shaped like a bag, with an opening beneath, on one side of which is the true nest. The bird does not chuse a new situation every year, but fastens a new nest to the end of the last, often as far as 5, one hanging from another; builds in large societies and brings 3 at each hatch. Iris yellow. *[Series]*

Socia. Rufous-brown, beneath yellowish; frontlet black; tail short. *Sociable G.*

Inhabits the interior parts of the *Cape of Good Hope*: $5\frac{1}{2}$ inches long. These live together in vast tribes under one common roof, containing their several nests, which is built on a large species of mimosa.

Bill black; region of the ears yellowish; legs brown.

Striata. Brown, streaked with ferruginous, beneath white; throat black. *Striated G.*

Inhabits the *Island Bourbon*: $3\frac{1}{2}$ inches long.

Bill black; legs blackish.

Zeylonica. Ferruginous-brown, beneath purple, waved with black; front and rump bluish. *Ceylon G.*

Inhabits *Ceylon*. *Cim. Phys. tab. 42. p. 80.*

Bill and legs reddish-brown; hind-head, back and long quill-feathers brown; tail rusty-brown tipped with white; wing-coverts slightly edged and tipped with white, those nearest the back with blueish-ash; vent white.

Female, head, neck and body beneath bright ferruginous; wings brown; tail beneath ash-colour.

Ludoviciana. Black; breast, belly, band on the wings and base of the quill-feathers white. *Louisiana G.*

2. Breast rosy.

Inhabits *North America*: $6\frac{1}{2}$ inches long.

Bill and legs brown; breast and lower wing-coverts pale purple; vent and rump white; belly with a few purple spots; 3 outmost tail-feathers each side white on the lower half.

Maculata. Feathers of the upper part of the body black, spotted with white towards the tip, of the lower part whitish, streaked with black; quill and tail-feathers whitish on the outer side. *Spotted G.*

Inhabits *America*.

Bill pale tipped with black; 2 outmost tail-feathers each side with a white spot near the tip on the inner side; legs brownish.

Obscura. Middle of the throat and double band on the wing-coverts white; quill-feathers green; flanks white, spotted with brown. *Dusky G.*

Inhabits *New York*.

Feathers of the head, neck and back edged with brown.

Hudsonica.

Hudsonica. Brown; belly white; sides spotted with brown; wing-coverts with 2 red bands. *Hudson's Bay G.*

Inhabits *Hudson's Bay*; 5 inches long.

Short, strong bill and legs brown; feathers of the back and rump, secondary quill and tail-feathers edged with pale rufous; tail a little forked.

Capensis. Blackish-brown; rump and wing-coverts pale yellow.

Cape G.

2. Feathers above brownish, in the middle spotted with black, beneath whitish, spotted with black.

Inhabits *Coromandel* and the *Cape of Good Hope*; $5\frac{1}{4}$ inches long; frequents thickets near rivers; eggs cinereous, spotted with black.

Bill and legs black; feathers of the head short, and in breeding-time silky; wings chestnut, edged with grey; greater quill-feathers edged with yellow; back sometimes pale yellow.

Nigra. Black; spot on the shoulder and base of the 2 outmost tail-feathers white. *Black G.*

Inhabits *New Spain*; $5\frac{1}{4}$ inches long.

Crassirostris. Black; base of the quill-feathers and middle tail-feathers in the middle white; legs whitish. *Thick-billed G.*

Length $5\frac{1}{4}$ inches; bill thick, yellowish.

Regulus. Black; wings with a white spot; hind-head with a crimson crest-like band. *Crimson-crested G.*

Bill very thick and strong. *Lev. Mus. p. 46.*

Americana. Black, beneath white; pectoral band black: wings with a double white band: tail rounded.

Black-breasted G.

Inhabits *America*; hardly 4 inches long; legs brown.

Cerulea. Blue: wings brown with a purple band at the base.

Blue G.

2. Entirely blue, except a black spot between the bill and eyes.

Inhabits *South America*: 6 inches long.

Bill and tail brown; frontlet black; legs dusky; female nearly all brown.

Oris.

Orix. Grey ; bill, front and belly black ; neck and rump tawny.
Grenadier G.

2. Wings and tail brown.

Inhabits *Africa* : size of *L. madagasc.*

Front, temples, breast and belly black ; wings brown with paler edges ; legs pale. Female grey.

Flamingo. White ; head, neck, breast and belly rosy.

Inhabits *Upsal* ; resembles the bullfinch.

Bill and legs reddish ; feathers of the *frontlet* blackish at the tips ; 3d and 4th quill-feathers and spot on the rump black ; transverse line on the wings and upper surface of the tail footy.

Violacea. Violet ; eyebrows, chin and vent red.

Purple G.

Inhabits *South America* ; $4\frac{1}{4}$ inches long.

Bill black ; irids red ; legs black-grey.

Groffa. Blueish-hoary ; throat and tail-feathers blackish ; chin white ; bill red.

White-throated G.

Inhabits *America* ; $7\frac{1}{4}$ inches long.

Frontlet black ; legs blueish-black.

Minima. Brown ; beneath testaceous ; primary quill-feathers at the base and secondaries on the hind-part white.

Dwarf G.

Inhabits *Surinam* ; very small.

Short, thick bill and eyes black ; tail-feathers even, blackish, paler at the tips ; legs cinereous.

Fusca. Brown, beneath whitish ; quill-feathers from the third to the ninth all white at the base.

Brown G.

Inhabits *Africa* : size of the Canary finch.

Bill lead-colour ; vent white ; wings and tail black ; legs pale.

Guttata. Brown ; breast black ; bill and rump red ; sides of the body black spotted with white.

Inhabits *New Holland*. *Lev. Mus.* 2. 48.

Septentrio- Black ; wings with a white spot.

Northern G.

-alis. Inhabits *Scandinavia* ; resembles the bullfinch.

Minuta. Grey; rump and body beneath ferruginous; quill-feathers 4, 5, 6, each side white at the base; tail entire.

Minute G.

Inhabits *Surinam* and *Cayenne*; very small, active and bold; frequents inhabited places and feeds on seeds and fruits.

Bill and *legs* brown.

Bicolor. Brown, beneath red.

Orange-bellied G.

2. Brownish, beneath white; chin somewhat ferruginous.

Inhabits *India*; $3\frac{1}{4}$ inches long.

Bill whitish; *legs* brown.

Praefina. Olive-green, beneath yellowish-hoary; rump red; legs yellow, (male).

Red-rumped G.

2. Olive-brown, beneath yellowish-hoary; rump pale red; legs yellow, (female).

Inhabits *Java*; size of *Fring. spinus*.

Male; *bill* black; *tail-feathers* black, the 2 middle ones on the upper surface, and 8 on the outer edge red.

Female; *bill* above black, beneath yellowish; *wings* with yellowish-white bands; *quill-feathers* cinereous, the 8 secondary on the anterior edge whitish at the tips; *tail-feathers* black, tip with white.

Tridactyla Feet 3-toed.

Three-toed G.

Inhabits woods of *Abyssinia*; feeds on kernels, the shells of which it easily cracks with its bill.

Head, neck, throat and narrow band reaching to the latter red; *neck* above, *back* and *tail* black; *wing-coverts* brown, edged with white; two of the *toes* placed forward.

81. EMBERIZA. *Bill* conic; *mandibles* receding from each other from the base downwards, the lower with the sides narrowed in, the upper with a hard knob within.

Bunting.

**Nivalis.* Quill-feathers white, the primaries black on the outer edge; tail-feathers black, the 3 lateral ones white.

Snow B.

2. Feathers

2. Feathers white dashed with yellow ; chin and throat spotted with brown.
3. Red-brown ; head and neck white ; breast with a blueish spot ; wings and tail varied with white and black.
4. Yellowish-white ; front and body beneath blackish ; wings and tail varied with white and black.

Inhabits during summer in vast flocks the north of *Europe*, *Asia* and *America* ; in winter migrates to a warmer climate ; appears in *England* before the setting in of frost and snow ; builds in holes of rocks, and lays 5 white eggs spotted with brown.

Colour varying with age, sex, or climate ; in winter nearly white, but the *back* and *middle coverts* black.

Bill and *legs* brown.

**Mustelina* Quill-feathers dusky, white at the base, the last wholly black ; tail-feathers black, the middle ones at the edge, and 3 lateral ones each side white with a dusky spot without. *Tawny B.*

Inhabits with the last ; $6\frac{1}{2}$ inches long.

Head and *neck* tawny ; *chin* nearly white, growing yellow towards the *breast* ; *belly* white varied with yellow ; *scapulars* and *back-feathers* black, edged with pale tawny ; *rump* half white, half yellow ; *secondary quill-feathers* white within ; *legs* black ; *bill* yellow tip with black ; *hind-claw* very long.

**Montana* Five first quill-feathers blackish-brown, the rest white spotted with brown at the tip ; tail-feathers brown, 3 lateral ones each side all white. *Mountain B.*

Inhabits *Yorkshire* and *Lincolnshire*.

Bill yellow tip with black ; *head* chestnut ; *chin* white ; *neck* above and *back* cinereous ; *breast* and *belly* with longitudinal flame-colour spots.

Hymalis. Black ; belly white. *Black B.*

Inhabits *North America* ; migrates ; $6\frac{1}{2}$ inches long.

Bill reddish-white ; *irids* blue ; *chin* black ; 2 outer tail-feathers each side white ; *legs* grey.

**Miliaria.* Brown, spotted beneath with black ; orbits rufous.

Common B.

Inhabits

Inhabits in flocks during the autumn and winter *Europe*; size of the yellow-hammer; makes its nest in the grass.

Bill and legs brownish; quill-feathers dusky, the outer edges pale yellow; tail a little forked, edged with white; legs yellowish.

Hortulana Quill-feathers brown, the first 3 whitish at the edges; tail-feathers brown, the 2 lateral ones black on the outer side. *Ortolan*.

2. Yellowish; quill-feathers edged with white.

3. Snow-white.

4. Tail white.

5. Blackish; head and neck greenish; bill red; legs cinereous.

Inhabits *Europe*; $6\frac{1}{4}$ inches long; feeds chiefly on panic-grass and grows prodigiously fat, when it is esteemed a delicacy; lays twice a year, in a low hedge or on the ground, 4—5 grey eggs.

Bill, naked eyelids and legs yellowish; head and neck olive-ash; chin yellowish, surrounded with a cinereous line; feathers of the back and scapulars brownish-bay, black in the middle; body beneath reddish.

Female, head and neck cinereous, each feather with a narrow, blackish line.

Sinenfis. Reddish-rufous, beneath pale yellow; lesser wing-coverts yellowish; quill and tail-feathers and longitudinal streak on the belly brown. *Chinese B.*

Inhabits southern parts of *China*.

Bill and legs reddish; irids yellow; secondary quill and tail-feathers edged with grey.

✶ *Citrinella* Tail-feathers blackish, the 2 outer ones on the inner edge with a pointed white spot. *Yellow-hammer*.

Inhabits *Europe*; $6\frac{1}{4}$ inches long; comes about hives in winter; builds on the ground in meadows; eggs whitish-purple with irregular blackish spots and streaks.

Bill black; crown, cheeks and body beneath yellow; eyebrows brownish; nape greenish; feathers of the neck and back blackish down the middle, rufous at the sides, and edged with grey; rump pale tawny; wings chestnut, olive or black, mostly edged with grey; 2 middle tail-feathers edged with grey, lateral ones olive without, the tip edged with white; legs yellowish-brown.

Chiraca.

Olivacea. Olive, beneath whiter; chin orange; pectoral band blackish. *Olive B.*

Inhabits *St. Domingo*; $3\frac{1}{2}$ inches long.

Bill and legs grey-brown; eyebrows yellow; throat and upper part of the breast black; rest of the breast and belly olive-grey; edge of the wings yellow; quill-feathers brown, edged with olive.

Passerina. Above grey-ferruginous, middle of the feathers black, beneath whitish-ash, spotted on the sides; tail-feathers black, the middle ones edged with ferruginous, the outer one each side almost to the base, the next as far as the middle, obliquely white. *Passerine B.*

Inhabits near the *Ural*; size of the reed-sparrow.

Behind the eyes a pale streak; throat (in the male) black, the feathers pale at the edges, and a white line to the neck each side; quill-feathers and wing-coverts ferruginous on the outer edge; tail a little forked; legs brownish-flesh-colour.

Pusilla. Above grey-ferruginous, beneath whitish; throat spotted; head with alternate longitudinal testaceous and black bands. *Dwarf B.*

Inhabits snowy mountains of *Dauria*; very small.

Rustica. Head black with 3 longitudinal white bands; chin, body beneath and 2 outmost tail-feathers each side obliquely white. *Rustic B.*

Inhabits woods of *Dauria*; size of the reed B.

Neck and shoulders ferruginous; back grey-ferruginous; throat with testaceous specks.

Fucata. Grey-ferruginous; ears with a round rufous spot; eyebrows, line beneath the eyes, and throat white; chin surrounded with a brown spotted circle.

Inhabits rocky parts of *Siberia*; size of *E. cia*.

Crown and part of the neck hoary-ash, the shafts of the feathers brown.

Spodocephala. Grey-ferruginous, beneath pale straw-colour; frontlet black; head and neck hoary-ash.

Inhabits near the water falls of *Dauria*; small.

Chrysophrys.

*Chryso-
phrys.*

Grey-ferruginous; crown black; eyebrows citron; from the middle of the crown to the nape a white band. Inhabits with the last; size of a yellow-hammer.

*Maelbyen-
fis.*

Head and neck lead-cinereous; chin whitish; belly ferruginous. *Maelby B.*

Inhabits Sweden.

Bill and legs reddish; eyebrows, spot each side between the nostrils and eyes, chin, sides of the neck, vent and tail beneath white; upper part of the breast lead-cinereous, lower rusty; back, shoulders and vent with black and ferruginous pointed spots; upper wing-coverts black, lower sulphur; quill-feathers blackish, edged with pale rusty; 6 upper tail-feathers black, 4 outer from the middle to the tip white, the outer edge black.

*Chrysop-
tera.*

Reddish-brown, beneath white: breast and lesser wing-coverts yellow; throat with a brown band.

Yellow-winged B.

Inhabits Falkland Islands: size of the yellow-hammer.

Bill brown; sides of the head white; quill and tail-feathers edged with yellow; legs yellow.

Rutila.

Bloody-rufous, beneath sulphur; wings grey-rusty. Inhabits Siberia; size of the yellow-hammer.

Ferruginea

Ferruginous; belly and 2 spots on the primary quill-feathers white. *Rusty B.*

Inhabits North America.

Two outer tail-feathers each side tipped with white.

Americana

Above cinereous streaked with brown, beneath yellow; chin white; quill and tail-feathers black with pale edges. *Black-throated B.*

Inhabits New York: size of the yellow-hammer.

Bill brownish; eyebrows and line beneath the eyes yellow; chin (in the male) with a large triangular black spot; greater wing-coverts chestnut.

2. Ashy-brown, beneath whitish; front and eyebrows yellow; band under the eyes and crescent on the front black; chin yellow with a triangular black spot in the middle.

Inhabits Hudson's Bay; $7\frac{1}{2}$ inches long.

Drasler

Brazilensis Crown, neck and body beneath yellow ; back wings and tail greenish, varied with yellow and brown.

Brazilian B.

Inhabits *Brazil* : size a sparrow.

Bill and eyes black ; legs brown.

Mexicana. Above brownish, beneath whitish spotted with brown ; head and throat yellow.

Mexican B.

Inhabits *New Spain* : $6\frac{1}{2}$ inches long.

Bill and legs pale ; wings and tail brownish.

Militaris. Head, wings, tail and back brown ; lower part of the back and breast yellow ; shoulders greenish ; belly white.

Military B.

Inhabits *Malta*.

Outer edge of the quill-feathers yellow.

Melanoccephala. Yellow ; head black ; back rufous.

Black-headed B.

Size of the yellow-hammer ; sides of the breast reddish ; quill-feathers brown, edged with whitish ; tail-feathers pale.

Brumalis. Body beneath, front and region of the eyes citron ; hind-head and neck cinereous.

Brumal B.

Inhabits the *Tyrolese* country ; small in size.

Back yellow-brown ; vent citron ; thighs whitish ; quill-feathers brown, the outer edge citron.

Coccinea. Body above silvery, beneath crimson ; vent white ; bill, head and quill-feathers black ; hind-head and tail black-blue.

Inhabits woods round *Baden* : size of the next.

Badensis. Olive, streaked with blackish, beneath paler ; chin orange ; breast streaked with blackish.

Baden B.

Inhabits *Baden* : a span long.

Bill above black, beneath yellowish, upper mandible with a single obtuse tooth in the middle ; nostrils feathered ; tongue short ; quill-feathers 16 ; tail-feathers 12 ; legs yellowish ; claws black.

Erythrophthalma. Black with a red gloss ; belly reddish ; wings with a white spot.

Towhe B.

Inhabits

Inhabits *America* ; 8 inches long ; flies in pairs.

Bill and legs brown ; quill-feathers black, edged with white ; tail black, a little forked.

Leucophrys. Rusty-brown, beneath white ; vent yellow ; crown black with a white fillet in the middle ; eyebrows white.

White-crowned B.

Inhabits *Canada* : $7\frac{1}{4}$ inches long ; feeds on grass, seeds and worms ; sings finely, and lays 4--5 chestnut eggs.

Bill and legs flesh-colour ; neck, breast and rump cinereous ; wings with a double white band.

Luscuosa. Black ; beard on the chest, front, breast, belly, rump and vent white.

Wreathed B.

Size of the greater titmouse.

Bill black ; from the front to the nape each side a white line ; wings with a white spot.

Aurcola. Rufous, beneath yellow ; transverse pectoral band ferruginous ; crown, cheeks and chin black.

Yellow-breasted B.

Inhabits pine groves of *Siberia* ; size of the reed-sparrow.

Temples white ; flanks with brown lines ; scapulars, streak on the wings and vent white ; tail a little forked.

Sandwichensis. Brown, beneath whitish spotted with brown ; eyebrows yellow ; temples dusky.

Sandwich B.

Inhabits *Sandwich Bay* ; 6 inches long.

Bill and legs black ; under the eyes a dusky line ; middle of the belly whitish, not spotted.

Aoonalafschkenfis. Reedish-brown, beneath whitish streaked with brown, middle of the belly white.

Aoonlafschka B.

Inhabits *Aoonalafschka* ; 7 inches long.

Atricapilla Reddish-brown, beneath cinereous ; chin white ; crown pale yellow ; front and streak through the eyes to the nape black.

Black-crowned B.

2. Breast waved with black ; *female, crown not yellow.

Inhabits *Nootka Sound and Sandwich Island* ; 7 inches long.

Bill black ; rump pale olive ; tail even ; legs brown ; wing-coverts and quill-feathers pale at the edges.

Pirhyer

Pithyornus Middle of the crown with an oval white spot ; nape varied with white ; chin red-testaceous ; 2 outmost tail-feathers each side with an oblique white band.

Pine B.

Inhabits *Siberia* ; size of the yellow-hammer.

Bill and *legs* whitish ; each side the *head* a black band ; *ocular band* rufous ; *cheeks* with a white spot ; sides of the *neck* ferruginous ; *breast* with a large triangular spot ; middle of the *belly* hoary, the sides rufous ; *vent* white ; *back* and *rump* rufous ; *wing-coverts* and secondary *quill-feathers* brown, edged with rufous, greater and *tail-feathers* blackish with whitish edges ; *tail* a little forked.

Female varied with grey and rufous.

Cinerea. Bay, beneath whitish spotted with bay ; tail and quill-feathers brown, edged with grey ; rump grey ; tail-coverts reddish-white.

Cinereous B.

Inhabits juniper woods of *America* ; $5\frac{1}{2}$ inches long.

Carulea. Varied with rufous and blue ; crown rufous ; greater wing-coverts, quill and tail-feathers brown with the outer edge rufous.

Blue B.

Inhabits *Canada* ; $4\frac{1}{2}$ inches long.

Cyanea. Blue ; crown deeper ; quill and tail-feathers brown, edged with blue.

Indigo B.

2. Shining blue ; interscapulars and shoulders varied with blue and ferruginous.

Inhabits *America* : 5 inches long. *Female* brown.

Bill lead-colour ; *legs* brown.

Quelea. Grey ; front black ; bill scarlet.

Black-faced B.

2. Varied above with brown and black.

Inhabits near the *Senegal* : $4\frac{1}{2}$ inches long.

Bill thick ; *cheeks* and *chin* black ; rest of the *head*, *shoulders* and *back* varied with black and grey ; *breast* and *belly* reddish-white ; *quill* and *tail-feathers* blackish, edged with cinereous ; *legs* flesh-colour.

Textrix. Chestnut, beneath yellow ; eyebrows and rump yellow ; middle of the breast with a broad black band.

Weaver B.

Vol. I. — 3 Z

Inhabits

Inhabits *Africa*? size of a sparrow.

Sides of the *head* varied with yellow and black; *bill* and *legs* pale; *tail* black. In winter the whole bird is much like the house-sparrow.

Rubra. **Crimson**; neck and back varied with olive and black with a few crimson marks; belly and vent cinereous; quill and tail-feathers black, edged with grey-green.
Crimson B.

Inhabits the *Isle of France*: size of the last.

Bill black; *legs* pale flesh-colour.

Female, olive, beneath paler.

Capensis. **Grey**; chin whitish; ocular band blackish. *Cape B.*

2. Body beneath yellow; sides of the neck with 3 black streaks.

3. Body beneath whitish.

4. Beneath whitish; throat varied with cinereous.

Inhabits the *Cape of Good Hope*; size of a sparrow.

Bill black; *body* above reddish varied with black; *crown* and *nape* varied with grey and black; lesser *wing-coverts* rufous, greater, *quill* and *tail-feathers* black, edged with rufous; *legs* blackish.

Fusca. **Brownish**; wings and tail brown with dusky bands; belly white; nostrils, cheeks and chin with feathered tufts.
Barred-tailed B.

Inhabits *China*; size of the ortolan.

Bill flesh-colour; *legs* rosy; *hind-claw* long.

Ludovicia. **Rufous** spotted with black, beneath pale; breast rufous; head with a black crescent. *Louisiana B.*

Inhabits *Louisiana*; $5\frac{1}{4}$ inches long.

Bill rufous spotted with black; *head* and *throat* reddish; *rump* and *wedged tail* black; *breast* rufous; greater *wing-coverts* and *quill-feathers* black, edged with rufous; *legs* cinereous.

Cia. **Reddish**; head with a few blackish lines; eyebrows white. *Foolish B.*

Inhabits *Europe* and *Siberia*; size of the yellow-hammer.

Bill black; 2 middle *tail-feathers* brown, outer ones half white.

Male, head cinereous spotted with black; feathers of the *body* black in the middle; *ocular band* black; *quill-feathers* black, edged with white.

Female,

Female, head with a cinereous line on the crown, the sides varied with dusky and ferruginous; *temples* with a white line; from the *eyes* to the base of the *mandible* a white line; *neck* cinereous beneath; *breast* and *belly* ferruginous; *back* reddish, varied with black; *wings* cinereous at the base; *tail* blackish.

Cirius. Brown; breast spotted; eyebrows pale yellow; 2 outmost tail-feathers with a white wedged spot. *Girl B*.
Inhabits *France* and *Italy*: $6\frac{1}{4}$ inches long; feeds on seeds, worms and insects.
Bill brown-ash; *head* olive; *temples* yellow; between the *bill* and *eyes* a black spot; *throat* black with a yellow band; *body* beneath yellow; *tail* a little forked, the feathers edged with grey.
Female beneath streaked with brown; chin and vent white.

Familiaris Cinereous spotted with brown; tail-feathers tipped with white; hind-part of the back yellow. *Familiar B*.
Inhabits *Java*; very small and tame.
Body beneath cinereous; *head* and *neck* ash-colour; *bill* black; *coverts* and tip of the *tail* white.

Flaveola. Grey; face yellow. *Yellow-faced B*.
Inhabits warm countries; very small.
Front and *chin* yellow.

Anasania. Brown; crown tawny; vent white. *Amazon B*.
Inhabits *Surinam*; size of a titmouse.
Base of the *wings* beneath whitish.

Oryzivora. Black; crown reddish; belly black; tail-feathers daggered. *Rice B*.

2. Olive-brown, beneath yellowish; rump yellow, transversely lined with brown; greater wing-coverts and quill-feathers black, edged with white.

Inhabits *Cuba*, and migrates to *Carolina* as the rice crops come in, committing great ravages; afterwards travels to *New York* to feed on the young Indian corn; sings well, and is $6\frac{1}{2}$ inches long.

Bill black; *front*, *temples*, *back*, (in the female rufous); *tail* and *body* beneath black; *hind-head* reddish; *shoulders* whitish; *quill-feathers* edged with yellowish-grey; *tail* forked, brownish at the tip; *legs* brown.

3 Z 2

**Schœniclus*.

Schani- Head black; body grey and black; outmost tail-feathers
clus. with a white wedged spot. *Reed B.*

2. Brown, beneath cinereous; head and neck blackish; 2 outmost tail-feathers wholly, the 3d from the middle to the tip white.

3. White; wings dusky; first tail-feathers each side white; second half white, half black; tail even.

Inhabits *Europe* and *Southern Siberia*, 2) *Good Hope*, 3) *Aj-tracan*, in marshy and reedy places; suspends its nest on 4 reeds like a hammock, 3 feet above the water; lays 4—5 blueish-white eggs with irregular purplish veins; sings in the night, and is much admired for its song; $5\frac{1}{4}$ inches long.

Bill brown; throat and breast black; belly white streaked with black at the sides; wing-coverts and quill-feathers brownish-red, black down the middle; tail-feathers pointed, the 8 middle ones black, 2 middle ones each edge, the rest on the outer rufous; 2, 2 on the shaft and the inner web from the base to the middle white, outmost each side at the base and tip dusky; legs brownish,

Female, head and neck brownish-red.

Provinci- Beneath white; band across the eyes and on the wings
alis. and chin white; spot under the eyes, streak each side the chin, and breast brownish spotted with black; quill and tail-feathers dusky, edged with rufous.

Mustache B.

Inhabits *Provence*; $4\frac{1}{2}$ inches long.

Bill black; legs brownish,

Lesbia. Beneath white; face white with 3 black bands; breast and rump brownish; tail-feathers white, 2 middle ones dusky, edged with rufous. *Lesbian B.*

Inhabits *Provence*; resembles the last.

Lotharin- Spotted with black, above rufous, beneath cinereous;
gica. belly rufous; streak across the eyes and on the mandibles black; tail-feathers black and white, middle ones rufous, outmost nearly all white. *Lorrain B.*

Inhabits *Lorrain*; $6\frac{1}{2}$ inches long.

Bill and legs brownish flesh-colour; temples pale; lesser wing-coverts cinereous, the rest varied with rufous and black.

Female, beneath white; a whitish spot above and a rufous one beneath the eyes,

Pittacus.

Pfittacea. Brown-ash ; wings tawny ; 2 tail-feathers very long.

Pfittaceous B.

Inhabits *Brazil* : size of a sparrow ; $11\frac{1}{2}$ inches long.

Frontlet red-dish ; middle tail-feathers tipped with bay.

Paradisea. Black ; breast red ; 4 middle tail-feathers long, pointed, 2 very long ; bill black. *Whidah B.*

Inhabits *Africa*, chiefly *Angola* ; changes its plumage every spring and autumn, and during the winter wants the longest tail-feathers when the male is dark-brown like the female, and $5\frac{1}{2}$ inches long.

Bill lead-colour ; neck above pale orange ; upper part of the belly orange, lower white ; vent black ; middle tail-feathers 4 inches long, waved, more shining than the rest, broad and terminated by a long thread, 5—5 13 inches long, broadest in the middle and ending in a long thread proceeding from the middle of the shaft ; legs flesh-colour.

Imperialis. Black ; shoulders red, banded with white ; quill-feathers brown ; tail long, the middle feathers extremely long.

Imperial B.

Inhabits *Africa*. *Cim. Phys.* 7. tab. 3.

Bill and legs dusky-brown ; long tail-feathers resembling those of the last, and are wanting in the female, and in the male in winter.

Serena. Head black ; crown red ; tail wedged, 2 middle feathers very long. *Dominican B.*

Length $6\frac{1}{2}$ inches ; changes its plumage, like all the rest of the long-tailed ones, twice a year, and wants the long tail-feathers in winter.

Bill red ; neck above and body beneath reddish-white ; feathers of the lower part of the neck and back black, edged with whitish ; wings black ; inner coverts and quill-feathers edged with white ; tail black, some of the feathers tipped with white.

Vidua. Blackish, beneath whitish ; 4 middle tail-feathers long, pointed, 2 of them very long ; bill red.

Long-tailed B.

Inhabits *India* and *Angola* ; less than a sparrow.

Temples whitish ; wing-coverts with a white band ; quill-feathers edged with brown ; tail-feathers 12, middle ones $12\frac{1}{2}$, the next 9 inches long, nearly black, the rest equal, and half white ; legs brown.

Principa-

- Principalis.* Variegated; breast rufous; 4 middle tail-feathers very long; bill and legs red. *Variegated B.*
 Inhabits *Angola*; size of *E. paradisea*.
Head and *body* above varied with black and rufous, beneath whitish; lesser wing-coverts white, greater black, edged with rufous; quill-feathers rufous; 2 middle tail-feathers $5\frac{1}{2}$, 2 next $4\frac{1}{2}$ longer than the rest, short ones brown with paler edges and spotted with white on the inner web.
- Regia.* Middle tail-feathers very long, equal, feathered only at the tip; bill red. *Shaft-tailed B.*
 Inhabits *Africa*; less than the linnet.
Body above and vent black; throat, temples, orbits and body beneath rufous; neck above spotted with black; tail-feathers black, 4 middle ones 9—10 inches long; legs red.
- Longicauda.* Black; shoulders orange, edged with white; tail-feathers long, 6 middle ones very long. *Orange-shouldered B.*
 Inhabits the *Cape of Good Hope*; size of a thrush, 20 inches long, of which the tail measures 15.
 Bill strong, black; some of the quill-feathers white at the base; legs brown; claws long, hooked.
- Panayensis.* Black; breast with a large crimson spot; 4 middle tail-feathers very long, pendulous, pointed, equal. *Panayan B.*
 Inhabits *Panay*; 12 inches long.
- Angolensis.* Black; crown and neck yellow; tail long. *Angola B.*
 Inhabits *Angola*; size of a sparrow.
- Ciris.* Head blue; belly orange; back green; the feathers green-brown. *Painted B.*
 Inhabits *South America*; $5\frac{1}{2}$ inches long; varies in colour by age, sex or climate; builds in orange groves.
 The young bird for the first year brown; the old male, head and neck blue; orbits red; shoulders and upper part of the back green-yellow, lower part, rump and body beneath red. Old female, above green, beneath yellow-green; quill-feathers brown, edged with green; tail varied with brown and green.
- Mixta.* Grey; breast and throat blue; belly white. *Mixed B.*
 Inhabits

Inhabits China.

Bill pale, lower mandible at the sides of the base gibbous; *body* above grey with here and there a blueish gloss; feathers of the *belly* brown at the base; *thighs* grey with a few blueish feathers; *legs* pale.

Quadri-color. Head and neck blue; back, wings and tip of the tail green; tail and middle of the belly red; breast and rest of the belly brownish. *Red-rumped B.*
Inhabits Java; 5 inches long.

Cyanopsis. Green; rump and belly rufous; front, cheeks and chin blue; quill-feathers brown, edged with green; tail-feathers edged with red, the middle ones green, the rest brown. *Blue-faced B.*
Inhabits Java: 4 inches long.
Bill lead-colour; middle of the *belly* red; *legs* grey.

Viridis. Above green, beneath white; wings and tail blue. *Green B.*

2. Chin and vent yellow.

Inhabits India; size of a sparrow.

Bill greenish-brown; shafts of the *quill* and *tail-feathers* white; *legs* black.

Platensis. Above greenish-brown, beneath white-ash; back varied with black; quill and lateral tail-feathers edged with yellow. *Plata B.*
Inhabits near the river *Plata*; 8 inches long.
Bill cinereous; *irids* bay; *legs* lead-colour.

Borbonica. Rufous-red; wings, tail and legs chestnut. *Bourbon B.*
Inhabits the *Island Bourbon*: 5½ inches long.
Bill brown.

Alsat. Hoary, beneath vinaceous; head, chin and edge of the tail black; bill, legs and orbits rosy. *Red-eyed B.*
Inhabits the *Isle of France*; less than a sparrow.
Irids rosy; from the corner of the *mouth* to the *hind-head* a white streak; lower *tail-coverts* white.

**Chloroce.*

- *Chloroceryphaea*. Brown; head and neck olive; back and wing-coverts varied with brown and black; tail forked.

Green-beaded B.

Was once caught near London. Legs yellowish.

- Grisea*. Grey; wing-coverts and breast varied with red; quill and tail-feathers within white, without varied with grey and red.

Grey B.

Inhabits Surinam: 5 inches long.

- Surinamensis*. Grey, beneath pale yellow; breast with oblong black spots.

Surinam B.

Inhabits Surinam; size of a lark.

- Asiatica*. Cinereous; wings and tail brown.

Gaur B.

Inhabits India; $4\frac{1}{2}$ inches long.

- Ruficapilla*. Above brown, beneath cinereous; chin ferruginous; frontlet white, above reddish; tail black.

82. TANAGRA. *Bill* conic, pointed, notched, almost triangular at the base, a little inclining at the tip. *Tanager.*

- Jacapa*. Black; front, throat and breast scarlet. *Red-breasted T.*

Inhabits South America: $6\frac{1}{4}$ inches long; frequents inhabited places, and builds a pendulous, cylindrical and something curved nest; feeds on fruits; eggs white with small reddish spots.

Bill black, lower mandible silvery, convex on the hind-part; front sometimes black; legs brown.

Female purplish-brown, beneath reddish; wings and tail brown.

- Brasilia*. Scarlet; wings and tail black. *Brasilian T.*

2. Breast and upper part of the back with curved greenish spots.

3. Each side the neck 2 semilunar blue spots; edges of the wings blue.

Inhabits South America; $6\frac{1}{4}$ inches long.

Bill black, lower mandible from the base to the middle white; feathers at the base and legs black.

[*Rubra.*

Rubra. Red ; wings and tail black ; tail-feathers tipt with white.
Red T.

2. Tail not tipt with white.

Inhabits woods of *Canada* : $6\frac{1}{4}$ inches long. *Female* green.

Bill horn-colour ; *quill-feathers* brown, the greater part of the inner edge white ; *tail* a little forked ; *legs* black.

Olivacea. Olive ; throat and breast yellow ; belly white ; quill and tail-feathers brown, edged with white. *Olive T.*
Inhabits *Cayenne*. *Female* green, beneath yellowish.

Mississipen-fis. Entirely red. *Mississipi T.*

2. Head, wings and tail amethystine ; neck above and wing-coverts green ; scapulars yellow, edged with greenish.

Inhabits near the *Mississipi*, 2) *Mexico* : 7 inches long ; sings finely ; feeds on Indian corn, which it collects and covers over with leaves for winter store.

Æstiva. Red ; bill yellowish. *Summer T.*
Inhabits during summer in *North America* ; $6\frac{1}{4}$ inches long.
Eyes black ; *quill-feathers* blood-red at the tip ; *legs* dusky.
Female yellow-brown.

Magna. Olive-brown, beneath reddish ; legs, front and cheeks blue ; chin and vent red, the former with a white spot. *Grand T.*
Inhabits woods of *Cayenne* and *Guiana* : feeds on fruits and lesser insects ; $8\frac{1}{4}$ inches long.
Bill brown, lower mandible with a black streak each side ; *eyebrows* white.

Jacarina. Black-violet ; wings whitish beneath ; tail divaricate, forked. *Jacarini T.*
Inhabits *South America* ; size of a finch ; makes an hemispherical nest of dry herbs, and lays 2 greenish-white eggs with numerous small red spots.
Bill and *legs* cinereous. *Male*, in moulting-time partly black, partly grey, like the *female*.

Olacea. Violet, beneath and hind-head fine yellow ; middle quill and lateral tail-feathers within white. *Golden T.*
2. Shining-black ; front, breast and belly pale yellow ; outmost tail-feather with a white spot.

Vol. I. — 4 A

Inhabits

Inhabits *Brasil* and *Cayenne* : $3\frac{1}{2}$ inches long ; is very destructive to rice plantations ; variable in its colours.
Female above olive ; young bird, blue and olive.

Carulea. Blue ; bill black ; legs chestnut.
 Inhabits *Cayenne* : 5 inches long.

Blue T.

Gyrola. Green ; head red ; collar yellow ; breast blue.

Red-headed T.

Inhabits *South America* : $4\frac{1}{2}$ inches long.

Bill horn-colour ; head rufous or crimson ; wings with a white spot ; quill and tail-feathers edged with brown, 2 middle ones of the latter nearly green ; legs brownish.

Variabilis. Green with a gloss of blue or brown ; ocular band black ; quill and tail-feathers black, edged with green.

Variable T.

Length $4\frac{1}{2}$ inches ; bill horn-colour ; rump greenish ; legs pale.

Tricolor. Shining green, beneath yellowish-green ; wing-coverts violet ; frontlet and upper part of the back black ; rump tawny.

Green-headed T.

2. Crown and chin violet ; an orange scarlet band from the eye each side and meeting on the neck above ; coverts with a narrow yellow band ; rump green.

Inhabits *Cayenne* ; $5\frac{1}{4}$ inches long.

Bill black ; tail a little forked, the feathers on the outer edge near the tip with a small violet spot ; legs lead-colour ; chin with a large black spot ; pectoral band blue.

Grisea. Olive-grey, beneath grey ; wings and tail black, edged with grey.

Grey T.

Inhabits *Guiana* and *Louisiana* : 5 inches long.

Bill black ; front grey ; legs black-brown.

Cayana. Tawny ; back green ; head rufous ; cheeks black.

Rufous-headed T.

2. Beneath golden ; back yellow-green ; head blue ; wings and tail green.

Inhabits generally in pairs the open plains of *Cayenne* : fixes a linnet ; feeds on seeds and fruits.

Atrata

Aurata. Shining black ; back a little violet. *Black T.*
Inhabits *India* ; size of a thrush.

Mexicana. Black, beneath yellowish ; breast and rump blue.
Black and blue T.

2. Beneath white ; head, lower part of the neck and breast blue ; tail-coverts green.

Inhabits *South America* ; 5 inches long ; sings finely.

Bill and *legs* black ; *flanks* spotted with black and blue ; *head* and *throat* blue ; upper *wing-coverts* blue-glossy green, greater black, edged with blue ; *quill-feathers* edged, some with green, some with white.

Guianensis. Green ; head grey-ash ; front and stripe each side from the front to the nape rufous. *Grey-headed T.*
Inhabits woods of *Guiana* ; 5½ inches long.

Tatao. Violet ; back black ; rump tawny ; head green ; breast and wings violet. *Paradise T.*

Inhabits *Guiana* ; hardly 6 inches long.

Bill and *legs* black ; *breast*, *belly* and *vent* sea-green ; lesser *wing-coverts* golden-green, middle ones blue, greater violet ; *quill-feathers* black, edged with blue, secondaries and *tail* black.

Male, rump flame-colour ; *female* orange.

Nigricollis. Olive, beneath yellow ; chin black ; breast orange ; wing-coverts, quill and tail-feathers brown, edged with olive. *Black-throated T.*

Inhabits *Guiana* : 5 inches long.

Upper *mandible* black, lower grey ; sides of the neck yellow ; *legs* blackish.

Albirostris. Black ; base of the tail and spot on the wings yellow ; bill white. *White-billed T.*

2. Base of the tail and spot on the wings white.

Inhabits *America* ; size of a thrush.

Bill long like that of the thrush ; feathers of the back white at the base ; *rump* and *vent* yellow ; *tail* even.

Gularis. Black, beneath white ; head red ; throat purple. *Red-headed T.*
Inhabits

Inhabits *Cayenne* and *Guiana* : 7 inches long.

Bill brown ; *chin* red with purple spots ; *tail* roundish,
3 inches long ; *legs* dusky-black.

Cayennensis. Shining black ; breast each side and wings beneath yellow.
Negro T.

Inhabits *South America*. *Bill* and *legs* black.

Ruficollis. Black-blue ; throat with a large rufous band ; wings and
tail black. *Rufous-throated T.*

Inhabits *Jamaica* : $5\frac{1}{2}$ inches long. *Bill* and *legs* black.

Brazilensis. Black, beneath white ; throat and rump blueish ; face and
breast black. *Turquoise T.*

Inhabits *Brazil* ; 6 inches long.

Bill blackish ; *head* blueish.

Dominica. Spotted with black, above olive-brown, beneath whitish.
St. Domingo T.

Inhabits *St. Domingo* ; $6\frac{1}{2}$ inches long.

Quill-feathers brown, edged with olive ; *tail* a little forked,
brown-ash ; middle *tail-feathers* entirely, the rest edged with
olive ; *bill* and *legs* brown.

Militaris. Brown ; breast, throat, chin and shoulders blood-red.

Military T.

Inhabits *South America* ; near 6 inches long.

Bill and *legs* brownish.

Leucocephala. Black-brown ; front white ; throat reddish ; breast and
wings purplish ; belly and vent yellowish. *White-fronted T.*

Inhabits mountains of *Brazil* ; 4 inches long.

Bill and *legs* yellow.

Flava. Dusky-yellow ; throat, breast and spot on the belly black ;
quill and tail-feathers black, edged with sea-green. *Yellow T.*

Inhabits *Brazil* ; size of a lark.

Bill black ; *legs* cinereous.

Agboine.

Amboinensis. Varied with black and blue ; crown black ; rump greenish-blue ; cheeks, chin, throat and breast blue ; belly and vent white. *Amboina T.*

Inhabits *Amboina* ; $6\frac{1}{4}$ inches long.

Upper wing-coverts blue with a purple spot ; wings blue varied with black and green ; tail black, reddish at the tip.

Silvers. Green ; head and body beneath hoary ; eyebrows, ocular band and one across the throat black.

Inhabits the thickest woods of *Guiana* ; is solitary and builds its nest mostly on the ground.

Bill black ; legs brown ; chin white ; shoulders yellow.

Canora. Blue varied with tawny spots ; tail black tipped with white ; wings partly blue, partly tawny. *Cærulean T.*

Inhabits *New Spain* ; size of a sparrow ; sings finely.

Bill brownish ; legs grey.

Episcopus. Cinereous ; wings and tail blue without. *Bishop T.*

Inhabits *Cayenne* ; $6\frac{1}{2}$ inches long ; tail a little forked.

Female brown ; head, neck and breast blueish ; belly grey ; wings and tail black.

2. Wings and tail blueish ; shoulders with a whitish spot.

Length 7 inches ; bill black, beneath whitish ; coverts at the flexure of the wings white with a few blueish feathers ; primary quill-feathers blueish-green, secondary nearly all brown ; legs blackish.

Sayaca. Hoary ; wings pale blue. *Sayacu T.*

Inhabits *Cayenne* ; less than the last. Bill and eyes black.

Punctata. Green spotted with black, beneath yellowish-white.

Spotted T.

Inhabits *Cayenne* ; $4\frac{1}{2}$ inches long.

Bill and legs brown ; chin, breast and throat brown, the feathers whitish at the edges ; quill and tail-feathers brown, edged with green.

Viridis. Green, beneath yellowish ; lores, cheeks and chin black. ●

Green T.

Inhabits

Inhabits *South America*: $6\frac{1}{2}$ inches long.

Bill black, lower mandible with a longitudinal blue band; quill and tail-feathers black, edged with blueish, 2 middle ones greenish; legs brown.

Capitalis. Above green, beneath yellow; head and lower part of the neck black; breast orange. *Capital T.*
Length 5 inches; upper part of the neck yellow; quill and tail-feathers edged with yellow.

Sinenfis. Olive, beneath yellow; quill and tail-feathers black, edged with yellow. *Chinese T.*
Inhabits *China*; $5\frac{1}{2}$ inches long.
Bill chestnut tip with yellow; legs black; tail somewhat forked.

Cristata. Blackish; crest orange; chin and rump tawny. *Crested T.*
Inhabits *Guiana*; $6\frac{1}{2}$ inches long.
Bill black; chin and rump pale yellow; streak on the shoulders and upper edge of the wings white; legs lead-colour.

Bonariensis. Black-violet; wings and tail growing greenish. *Violet T.*
Inhabits *Bonaria*; 8 inches long.
Bill black; legs blackish. Female brown, head black.

Atra. Cinereous; face, chin and throat black, (female brown). *Black-faced T.*
Inhabits the plains of *Guiana*; 7 inches long.
Bill black, upper mandible whitish at the base; legs dusky.

Pileata. Blueish-ash, beneath silvery; crown, temples and sides of the neck black; ocular spot white, (male). *Hooded T.*

2. Blueish-ash, beneath white, (female).
Inhabits *Guiana* and *Brazil*: size of a sparrow.

Melanicastra. Above ferruginous, beneath fine yellow; head and nape black; wings and tail brown, the former streaked with whitish. *Black-crowned T.*
Inhabits

Inhabits promontaries of *Caucasus* and *Georgia*: 7 inches long.
Bill and *legs* livid; *eyes* brown; lower *wing-coverts* whitish-yellow; *tail-feathers* edged with pale yellow.
Female above rusty-olive, beneath whitish-yellow.

Sibirica. Black; the tips of the interscapular and rump feathers fringed with white.

Inhabits *Siberia*; size of a thrush.

Bill short, pale, tip with brown; *tail* notched at the tip; *legs* black; *hind-claw* nearly twice as long as the rest.

Atricapilla Reddish-rufous; head, rounded tail and wings glossy-black. *Black-headed T.*

Inhabits *Guiana*: 7 inches long.

Bill black; inner edge of the *wings* with a white spot.

Striata. Beneath yellow; head streaked with black and blue; back above blackish, beneath orange; quill and tail-feathers and upper wing-coverts black, edged with blue.

Furrow-clawed T.

Inhabits *South America*: 7 inches long.

Upper *tail-coverts* olive-brown; *claws* furrowed at the sides.

Nigerrima. Black; wings with a white spot within. *Guiana T.*

Inhabits *Guiana*: 6½—7 inches long.

Female rufous, beneath cinereous; *bill* black; *legs* yellowish.

Capensis. Above ferruginous-brown, beneath ferruginous, and varied with white; tail blackish in the middle, the sides brownish-ferruginous; *bill* yellowish; *legs* black.

Cape T.

Inhabits the *Cape of Good Hope*.

83. FRINGILLA. *Bill* conic, straight, pointed. *Finch.*

Lapponica Head black; body grey and black; eyebrows white; outmost tail-feathers with a white wedged spot.

Lapland F.

Inhabits *Europe*, *Asia* and *America*: 6½ inches long; runs along the ground like a lark, and sings on the wing.

Throat and *breast* black; *neck* above ferruginous; *belly*, *vent* and first *quill-feathers* on the outer edge white.

Surinama.

Surinamz. Grey: quill-feathers each side and lateral tail-feathers within white. *Surinam F.*

Inhabits *Surinam*.

Bill yellow; *belly* whitish; *quill-feathers* black, the primaries towards the base each side, the secondaries at the base and tip white; *tail-feathers* equal, blackish, 1, 2 with a white spot on the inner side; 3, 4, 6 tip with white.

Longirostris. Varied with brown and yellow, beneath orange; tail olive; head and chin black; collar chestnut. *Long-billed F.*

Inhabits near the *Senegal*; $6\frac{1}{2}$ inches long.

Long bill and *legs* grey-brown; *quill-feathers* brown, the outer edge olive, the inner mostly yellow; lateral *tail-feathers* edged with yellow.

Calebs. Limbs black; quill-feathers white on both sides, the 3 first without spots; 2 of the tail-feathers obliquely white. *Chaffinch.*

2. Ashy, beneath flesh-colour; wing-coverts white, black in the middle; wings and tail black.

3. Body white.

4. Collar and crown white.

5. Fore-part white; hind-part ferruginous.

6. Back yellowish, beneath very pale.

Inhabits *Europe* and *Africa*; the females migrate from *Sweden* to *Holland* in the autumn leaving their mates behind, and return in the spring; sings early in the spring; lays 4—5 dull white eggs spotted with deep purple.

Bill white, in spring and summer blueish tip with black; crown, nape and sides of the neck hoary; temples and throat reddish; belly and vent reddish-white; wing-coverts with a white blotch, the greater with a white band besides; quill-feathers yellowish at the edge, white at the base; tail a little forked; legs brown.

Female wants the red on the breast and other parts.

Monti-fringilla. Base of the wings beneath fine yellow.

Brambling. Mountain F.

2. Eyebrows and band on the nape black; body beneath and rump white; chin and breast reddish; wing-coverts with a whitish band.

3. Body paler; head white.

Inhabits

Inhabits *Europe* and *Siberia*, 2) *Asia*; 6½ inches long; feeds on the mast of beech and other trees; eggs yellowish, spotted.

Bill yellowish tip with black; head, neck and back black, (in the female brown) the feathers edged with reddish-brown; rump, lower part of the breast and belly white; throat and upper part of the breast reddish-tawny, (in the female reddish-grey); lesser wing-coverts reddish, middle ones reddish-white, greater black tip with white, those next the body reddish at the tip; quill-feathers black, edged with yellowish; tail a little forked; legs grey.

Lulefis. Brown; breast and shoulders rufous; wings black with a rufous spot. *Lulean F.*

Inhabits *Sweden*; size of the gold-finch.

Bill brown; head and neck above blackish-ash; throat white; belly and vent whitish; wing-coverts with alternate rufous and black bands, the last white; quill-feathers black; tail dark cinereous.

Erythrocephala. Olive; head and neck scarlet; wings and tail black; wing-coverts with 2 white bands. *Red-headed F.*

Inhabits *Mauritius Island*; near 5 inches long.

Bill black; legs reddish-grey; orbits black.

Pittacea. Green; face, chin, rump and wedged tail scarlet. *Parrot F.*

Bill black; quill-feathers on the outer edge green, inner brown-ash; 2 middle tail-feathers entirely scarlet with brown shafts, the rest scarlet without, brown within.

Carduella. Quill-feathers black, and (except the outmost) marked with fine yellow in the middle; 2 outmost tail-feathers in the middle, the rest tip with white.

Gold-finch. Thistle F.

2. Region of the bill and eyes snowy.

3. Head streaked with red or yellow.

4. Head and neck black; bill spotted with red at the base.

5. Whitish; front, cheeks and chin red; wings and tail brown-ash.

6. White; quill-feathers black tip with white.

7. Black; middle tail-feathers sulphur.

8. Blackish;

8. Blackish; breast greenish; body beneath ashy; frontlet saffron.

9. Hybrid between the gold and canary-finch; body yellowish-brown, beneath yellow; tail yellow tipped with white.

Inhabits *Europe, Asia and Africa*; sings charmingly, and is very docile; frequents orchards, and feeds on various seeds; builds frequently in apple or pear trees, and lays 5 white eggs with deep purple spots on the upper end.

Bill white tipped with black; frontlet scarlet, in the female brown; cheeks, hind-head, and belly white; top of the head black; wing-coverts black, in the female brown; back, rump and breast chestnut-brown.

Melba. Green; face and tail red; belly waved with white and black.

Inhabits *China and Brasil*; size of the gold-finch.

Bill flesh-colour, in the female yellowish; chin and rump red; lores blueish; quill-feathers black, the secondaries and wing-coverts edged with red; tail even; legs brownish.

Female, crown and neck cinereous; base of the wings and rump yellowish-green; tail brown, edged with red.

Afra. Green; cheeks and tail red; primary quill-feathers black, edged with orange. *Red-faced F.*

Inhabits *Angola*; 6 inches long. Legs yellowish.

Alario. Head and breast black; body chestnut, beneath white; 4 lateral tail-feathers with a black line. *Cape F.*

Inhabits the *Cape of Good Hope*; 4½ inches long.

Bill pale ash; neck black; wings blackish; legs brown.

Leucotis. Above dusky, beneath yellow; ears with a white spot; primary quill-feathers blue, secondary green. *White-eared F.*

2. Back and tail purple.

3. Head green; breast and tail purple.

4. Head, back and wing-coverts purple; tail blue.

5. Head and lesser wing-coverts brown; breast pale green.

6. Beneath red; head, back, tail and wing-coverts brown, the lower ones scarlet.

Inhabits *China*; very small.

All the varieties have the white spot on the ear.

Amand.

Amandava Brown and reddish spotted with white, beneath yellowish : tail-feathers black with a white spot at the tip.

Amaduvade F.

2. Brown : wings with a few white spots at the tips.

Inhabits *Asia* ; hardly 4 inches long ; is often tamed.

Bill dull red ; head, rump and vent reddish ; back and wings brown with white dots.

Female, chin and throat mixed with white, legs pale yellow.

Granatina Tail wedged : body reddish : bill red : temples, rump and belly violet. *Brazilian F.*

2. Lores brown : hind-part of the body violet.

3. Lower part of the belly and thighs the colour of the body.

4. Tail reddish.

5. Thighs grey-brown : beneath pale tawny : crown tawny.

Inhabits *Brazil* ; $4\frac{1}{4}$ inches long ; sings well.

Bill and eyelids red ; chin, lower part of the belly and thighs black. Female, crown tawny.

Zeylonica. Yellow, beneath white and black : quill and tail-feathers black, the outer edge yellow : head and bill black.

Ceylon F.

2. Back green : breast and belly yellowish-white : head brown-red.

Inhabits *Ceylon* and *China* ; very small.

Fuscicollis. Crown, rump and vent green : back ferruginous : throat brownish with a cinereous and a reddish spot : tail half yellow, half black. *Brown-throated F.*

Inhabits *China*.

Bill red ; legs yellow ; behind the eyes a white line ; quill-feathers black with a yellow spot.

Ignita. Shining chesnut : wings and wedged tail black. *Fire F.*

Inhabits *Africa* ; size of the linnet.

Bill black, yellowish at the base ; legs flesh-colour.

Female paler ; front and space between the eyes red ; tail red tipped with black.

Tristis. Yellow : front black ; wings brown. *American Gold-F.*

Inhabits *America* : $4\frac{1}{2}$ inches long.

2. Olive-brown, beneath white : neck, breast and rump yellow : quill and tail-feathers black, edged with white.

4 B 2

Bill

Bill and legs white; wing-coverts black with a white band; tail and quill-feathers black, the lesser edged and tip with white.

Female, head not black; body above olive; belly and vent white.

Zena. Black, beneath white; above and beneath the eyes a white line; breast orange. *Orange F.*

Inhabits South America: 6½ inches long.

Bill and legs lead-colour; under the chin a large yellow spot; neck above and rump red; belly and vent white; wings and tail brown; wing-coverts with a white band.

Female, head and neck cinereous.

Lepida. Greenish-brown; band above and beneath the eyes and chin orange; breast black. *Lepid F.*

Inhabits the woods of Cuba: as small again as the Canary bird; sings with a weak but very sweet note.

Bill and eyes black; belly and legs purplish-ash.

Carthaginiensis. Variegated with cinereous, brown and yellow. *Carthaginian F.*

Inhabits woods of America: larger than the Canary bird.

Bill and legs pale brown.

Æthiops. Deep black; irids rufous. *Ethiopian F.*

Inhabits woods of America; feeds on fruits and seeds, and is easily tamed; sings with the feathers of the head erected.

Autumnalis. Greenish; cap ferruginous; vent testaceous. *Autumnal F.*

Inhabits Surinam. Tail entire.

Citrinella. Pale greenish; back spotted with brown; legs flesh-colour. *Citril F.*

Inhabits Southern Europe and Syria; 5 inches long.

Bill brown; body beneath and rump greenish-yellow; lesser wing-coverts greenish; greater quill and tail-feathers black edged with green.

Serina. Pale greenish; lower mandible whitish; back and sides spotted with brown; wings with a yellow band.

Serin F.
Inhabit

Inhabits *Southern Europe*; $4\frac{1}{2}$ inches long.

Upper mandible grey-brown; body above brown, mixed with yellowish-green, beneath greenish-yellow; quill and tail feathers brown, edged with greenish-grey; tail a little forked; legs brown.

Senegal. Rusty-brown, beneath and crown rufous; bill red, streaked with black. *Senegal F.*

2. Bill purple; neck and wing-coverts rufous; sides of the breast and wings above spotted with white.

Inhabits *Senegal*, 2) *Abyssinia*; $4\frac{1}{2}$ inches long.

Bill reddish with brown edges; body vinaceous-red; lower part of the belly greenish-brown; hind-head, neck, back and wing-coverts brown; tail black; legs pale grey.

Indis. Black; chin and lores rufous; bill black.

Rufous-chinned F.

2. Lead-blue; chin with a rufous spot, quill and tail-feathers blackish.

Inhabits *South America*; $4\frac{1}{2}$ inches long.

Irids red; legs blackish.

Virens. Black-blue with a steel gloss; bill and legs flesh-colour.

Glossy F.

2. Black; bill and legs the colour of the body.

Inhabits *Brazil*; $4\frac{1}{2}$ inches long.

Irids white. Female above blackish, the feathers edged with yellowish-brown, beneath yellowish-brown; rump grey; behind the eyes a blackish streak; tail black, edged with grey.

Melanoleuca. Black; edges of the wings and tail ferruginous; belly with a few white spots. *Black and orange F.*

Inhabits *Moco*; $4\frac{1}{2}$ inches long.

Bill and legs brownish.

Melanoleuca. Black; pectoral band white.

White-breasted F.

Inhabits *Java*; resembles the last.

Pectoris. Brown, beneath paler; tail a little forked. *Cowpen F.*

Inhabits *North America*; $6\frac{1}{2}$ inches long; feeds about the cribs and stalls of cattle.

Bill blackish; legs brown.

Sinica.

- Sinica*. Olive, beneath testaceous; quill and tail-feathers black with a yellow base. *Chinese F.*
 Inhabits *China*: 5 inches long.
Bill and *legs* yellowish; *body* above olive-brown, a little sprinkled with rufous; *throat* olive.
- Forkata*. Neck, breast and rump pale yellow; back olive; tail long, forked, blueish-black; head with a black, pendent crest. *Forked-tailed F.*
 Inhabits *Ceylon*. *Cim. Phys.* 93. *tab.* 50. A.
 Dr. SHAW doubts whether it might not with more propriety be considered as a species of muscicapa, or fly-catcher.
- Melanoccephala*. Rusty-brown; head, throat and quill-feathers brown; sides of the neck and flanks streaked with black; neck above and belly white. *Black-headed F.*
 Inhabits *China*: 4 inches long.
Bill red; *legs* lead-colour.
- Fusca*. Brown, beneath brownish-white; bill and legs black. *Brown F.*
 Inhabits *China*: small.
- Navia*. Cinereous, streaked above; temples white; ocular streak reddish; back and wings pale rufous; tail black. *White-checked F.*
 Inhabits the *Cape of Good Hope*: $5\frac{1}{4}$ inches long.
Legs black.
- Eustachii*. Yellow, beneath orange; spot each side under the eyes blue; limbs red. *Eustace F.*
 Inhabits *St. Eustace*: $5\frac{1}{4}$ inches long.
- Variegata*. Variegated with red, yellow, blue and white; head reddish; breast yellowish; tail tip and edged with white. *Variegated F.*
 Inhabits *New Spain*: $5\frac{1}{4}$ inches long.
Bill yellowish; *legs* red.
- Nivalis*. Black, beneath snowy; secondary quill and tail-feathers white. *Snow F.*
 2. Flanks streaked with black; outmost tail-feathers with a white wedge-shaped spot. *Inhabits*

Inhabits *Europe*, chiefly *Dauphiny* : 7 inches long.

Bill black ; *head* and *neck* above cinereous ; *back* and *rump* grey-brown ; 2 middle *tail-feathers* black, the lateral ones white tipped with black.

Monticola. Brown, beneath white : crown chestnut varied with grey : temples, neck and 2 bands on the wings white.

Tree F.

Inhabits *North America* ; 6½ inches long.

Bill reddish ; *legs* brown.

Caspa. Reddish-grey : front and chin white : wings and tail black.

Caspa F.

Inhabits *Abyssinia* and *Barbary* ; frequents granaries in great flocks ; excels the Canary bird in its song.

Arcuata. Chestnut, beneath white : head and lower part of the neck black : collar and stripe behind the eyes white.

Crescent F.

Inhabits the *Cape of Good Hope* ; 6 inches long.

Lesser wing-coverts bay, middle ones black tipped with white ; *quill* and *tail-feathers* brown.

Elegans. Above green : neck cinereous : breast yellow : frontlet, chin, rump and tail red : belly with curved white spots.

Beautiful F.

Inhabits *Africa* ; 5 inches long.

Bill and *legs* red ; *rump* and *tail* chestnut-red.

Formosa. Green : chin and throat yellowish : belly barred with white and black : bill and legs red.

Lovely F.

Inhabits *India*. Perhaps the other sex of the last.

Tail-feathers blackish.

lutyracea. Green : eyebrows, breast and belly yellow : primary quill-feathers white on the outer edge.

Yellow F.

Inhabits *India* ; 4½ inches long ; sings finely.

Bill and *legs* brown ; *quill-feathers* edged with white.

canaria. Bill and body straw-colour : quill and tail-feathers greenish.

Canary bird. Canary F.

2. Body above brown : eyebrows yellow.

Inhabits

Inhabits the *Canary Islands*, 2) *Africa*; is easily tamed, and domesticated every where for its rich song; feeds on various seeds, chiefly hemp and *Canary-grass*.

Flavcola. Yellow: front tawny: quill and tail-feathers black, edged with yellow. *Saffron-fronted F.*
Size of the last; bill pale tip with brown; back greenish-yellow; tail forked; legs pale.

• *Spinus*. Quill-feathers yellow in the middle, the first 4 without spots: tail-feathers yellow at the base and tip with black. *Siskin*.

2. Body black: crown yellow.

3. Pale olive, beneath yellow: head black: quill and tail-feathers edged with yellow.

4. Rump and body beneath yellow.

Inhabits *Europe*; 4½ inches long; feeds on various seeds; is easily tamed, and sings indifferently.

Crown black; body yellowish, above greenish; breast greenish; wings green; throat brown, (female white); head and back, in the female, greenish-ash spotted with brown.

Mexicana. Above greenish-brown, beneath pale ochre.

Mexican Siskin.

Inhabits *New Spain*; in size and manners resembles the last.

Catolol. Above varied with yellow and blackish, beneath white: legs cinereous. *Black Mexican Siskin*.

Inhabits *New Spain*: size of *F. spinus*; sings sweetly.

Barbata. Pale yellow: wings green; spotted with black and red: chin bearded. *Bearded F.*

Inhabits mountains of *Chili*, in winter descends into the plains. is easily tamed, sings charmingly, and imitates the notes of other birds; builds in trees; size of the *Canary bird*.

Bill white at the base tip with black; head black; chin, in the young bird, yellow, when half a year old covered with black hairs, and when full grown appearing as if bearded.

Female without beard, cinereous; wings here and there spotted with yellow.

Discal

Diuca. Blue; chin white. *Chilese F.*
Inhabits *Chili*, about houses; size of a sparrow; sings finely,
especially at sun-rise.

Sinenfis. Olive, beneath yellow; head, bill, legs and quill-feathers
black, the greater and tail-feathers half yellow.
Chinese Siskin.
Inhabits *China*; less than a sparrow.
Wing-coverts yellow, the greater with a black spot at the tip,
lesser with 2 black bands.

Flammea. Brown; crest flame-colour. *Crimson-crowned F.*
Inhabits *Norland*; 4½ inches long.
Bill and legs brownish; body beneath rosy.

*Flavirof-
tris.* Brown; bill yellowish. *Arctic F.*
Inhabits *Norway* and eastern *Siberia*; migrates.
Bill tipped with brown.
Female darker; quill and tail-feathers edged with grey; tail
somewhat forked; legs black.

*Canna-
bina.* Chestnut-brown, beneath reddish-white; wings with a lon-
gitudinal white band; spot on the crown and breast
red. *Greater Redpole.*
Inhabits *Europe* and *America*; 5½ inches long.
Bill black; head and neck cinereous; sides yellow; middle of
the belly white; tail forked, dusky, both sides edged with
white.
Female, head ash-colour, spotted with black; crown and breast
without the red; breast dirty-yellow with black lines.

Linota. Chestnut-brown, beneath whitish; wings with a longitu-
dinal white band; tail-feathers each side edged with
white. *Common Linnet.*
Inhabits *Europe*; 5½ inches long; feeds principally on hemp
seeds, which it peels before it eats; sings well; lays 5
whitish eggs with chestnut spots.
Bill grey tipped with brown; sides of the neck cinereous; throat
with a brown line in the middle bounded each side with a
white one; back black, bordered with reddish-brown; bot-
tom of the breast blood-red; vent yellowish; 2 middle tail-
feathers edged with dull-red.
Females and young birds want the red on the breast, which is
streaked with brown pointing downwards; legs brown.

- * *Linaria*. Brown, varied with grey, beneath reddish-white; wings with a double white band; crown and breast red.

Lesser Redpoll.

2. Belly whitish; eyebrows and band on the wings pale rufous; crown and rump red.

Inhabits *Europe, Asia and America*; 5 inches long.

Bill and legs brown; back black, the feathers edged with chestnut; sides with narrow dusky lines; quill-feathers dusky, edged with dirty-white; legs dusky.

Female, spot on the front saffron.

- * *Montium*. Black varied with reddish, beneath whitish; feathers of the lower part of the neck black in the middle; wings with a white band; rump red.

Twite. Mountain Linnet.

Inhabits *Europe*; 6½ inches long.

Feathers of the *throat and breast* black, edged with white; middle *quill-feathers* edged, secondary tip with white.

- Caudacuta* Varied with rufous and brown; eyebrows, chin and neck above rufous; tail entire, the feathers all pointed at the tips.

Sharp-tailed F.

Inhabits *Georgia*; 4½ inches long.

Bill and legs pale; irids brown; feathers of the body brown, edged with pale rufous; chin and streak above the eyes pale rufous.

- Georgiana*. Brown, beneath whitish; lesser wing-coverts wholly, quill and tail-feathers on the outer webs rufous; chin and throat mouse-colour; under the armpits a black streak.

Georgian F.

Inhabits *Georgia*; 6 inches long.

Bill dusky; irids brown; head brown, a little tumid; middle of the back blackish; legs brown.

- Argento-ratenfis*. Brown, beneath rufous spotted with brown; belly and vent whitish; legs reddish.

Straßburg F.

Inhabits round *Straßburg*; size of *F. linota*.

- Angolenfis*. Brown-ash, spotted with brown, beneath chestnut; forehead and chin black; cheeks and throat spotted with white; rump pale yellow.

Angola
Inhabits

Inhabits *Angola*; size of the last; sings delightfully.

Bill brown; greater *wing-coverts* and *quill-feathers* brown, edged with yellow; *tail-feathers* brown, edged with grey legs flesh-colour.

Female above brown-rufous, beneath paler spotted with black; temples pale rufous; near the base of the *bill* a brown spot.

Ara. Blackish; breast and rump pale ash.

Dusky F.

Inhabits *Angola*: 4 inches long.

Bill cinereous; legs black.

Macroura. Beneath pale ash; quill-feathers brown, edged with greenish; tail wedged, the middle feathers narrow, pointed, greenish-brown, lateral ones brown.

Long-tailed F.

Inhabits *Cayenne*; 7½ inches long.

Bill and legs brown.

Petronia. Grey; eyebrows white; chin pale yellow.

Ring Sparrow.

2. Above varied with black and reddish; beneath white-ash; wings barred with white; tail-feathers grey-brown.

3. Neck and collar whitish.

Inhabits *Europe*, especially *Germany*; 5½ inches long; feeds on insects and seeds, and builds in hollow trees.

Tail-feathers with a white spot at the tip of the outer side, the outmost white on the outer edge.

Stulta. Reddish-grey spotted with ferruginous, beneath yellowish; wings with a double white band.

Foolish Sparrow.

Inhabits *Italy*; size of the house-sparrow.

*Baronien-
sis.* Spotted with white, black and yellow, beneath yellowish-white; head white with pale yellow spots; tail-feathers pale yellow.

Speckled Sparrow.

Inhabits *Italy*; size of the house-sparrow.

Bill yellow; wings dusky; legs and tail yellowish.

Leucura. Yellowish spotted with chesnut and varied with white lines; beneath and head whitish-yellow; tail-feathers whitish-ash.

White-tailed Sparrow.

Inhabits *Bologna* in *Italy*.

Brachyura Entirely yellowish.

Short-tailed Sparrow.

Inhabits with the last. Breast and belly paler.

Dalmatica Above reddish, beneath whitish; tail forked.

Dalmatic Sparrow.

Inhabits *Sclavonia*; larger than the house-sparrow.

Bill whitish; legs yellowish.

Bengalus. Pale blue; head and back grey; sides of the head purple.

Blue-bellied F.

2. Back brown; belly and tail blue.

Inhabits *Angola* and *Bengal*; $4\frac{1}{2}$ inches long.

Bill dirty flesh-colour; quill-feathers brown, edged with grey; tail pale blue, a little wedged; legs whitish.

Female without the purple at the sides of the head.

Jamaica. Grey; breast blueish-green; quill and tail-feathers black.

Bonona F.

Inhabits *Jamaica*; 5 inches long.

Bill and legs black; wings, coverts and tail greenish-blue.

Can. Above yellow-brown, beneath yellow; head and chin grey; vent white; wings and tail brown with white lines.

Grey-headed F.

Inhabits *Jamaica*: 8 inches long.

Bill blueish-brown; legs blueish; claws brown.

Savanna-rum. Above brown varied with whitish and pale yellow, beneath yellowish-brown; belly and tip of the quill-feathers white; wings and tail brown; eyebrows yellow.

Savanna F.

Inhabits the *Savannas* of *Jamaica*: 4 inches long.

Bill brown; legs whitish.

Coccinea. Bright orange; wings and even tail black; quill-feathers orange at the outer edge, the primaries tipped with black.

Scarlet F.

Inhabits *Sandwich Islands*: $4\frac{1}{2}$ inches long.]

Bill brownish; legs black.

Prunicea.

Punicea. Black ; cheeks, throat and breast red ; wing-coverts with 2 white lines. *Red-breasted F.*
Inhabits *America*. Bill white.

Ferruginea Brown, the feathers edged with chestnut ; orbits white ; belly and spots on the breast paler. *Ferruginous F.*
Inhabits *North America* ; $5\frac{1}{2}$ inches long.
Bill black ; legs brownish flesh-colour.

Albicollis. Chestnut, beneath hoary ; chin white ; cheeks hoary ; eye-brows orange. *White-throated F.*
Inhabits *Pennsylvania* ; 6 inches long.
Bill and ocular band black ; legs flesh-colour.

Fasciata. Ferruginous spotted with black, beneath white streaked with black ; wings ferruginous ; tail brown with darker bars. *Fasciated F.*
Inhabits *New York*.
Primary quill-feathers black with whitish edges.

Graminea. Varied with cinereous, ferruginous and black, beneath white ; throat striate ; tail and primary quill-feathers blackish ; lesser wing-coverts bay. *Grass F.*
Inhabits *New York*. Lays 5 eggs in the grass.
Middle and greater wing-coverts black, and with the primary quill-feathers edged with white.

Cinerea. Brown-ash, the feathers edged with rusty ; cheeks with a grey and dusky band ; chin grey ; throat cinereous spotted with whitish. *Cinereous F.*
Inhabits *Adonateschka*. Bill and legs black.

Himelalis. Pale brown varied with black, beneath white spotted with brown ; belly white ; wing-coverts and primary quill-feathers brown, edged with white. *Winter F.*
Inhabits *New York*.

Striata. Head with 4 black streaks ; face yellow ; temples whitish ; wing-coverts and subwedged tail brown ; wings blackish. *Striped-headed F.*
Inhabits *New York* ; 5 inches long.
Bill lead-colour ; breast blueish-grey ; belly pale ; legs brown.

Purpurea.

Purpurea. Olive; belly whitish; quill-feathers brown on the inner webs. Purple F.

Inhabits *Carolina*; $5\frac{1}{2}$ inches long; feeds on juniper berries and the buds of fruit trees. Tail a little forked.

Female brown; breast only spotted with white.

Rosea. Rosy; frontlet silvery; back with brownish-grey stripes; wings and tail blackish; tail-feathers rosy on the outer edge. Rosy F.

Inhabits *Siberia*; size of the mountain F.

2. Reddish-ash, beneath white; feathers of the head, rump and throat tipped with fine red; quill and tail-feathers brown, edged with pale yellow.

Inhabits woods of *Siberia*: hardly 5 inches long.

Female above yellowish-ash; chin white.

3. Blackish, feathers edged with red; head and breast scarlet, the first with brown spots; belly flesh-colour.

Appears in April round *New York*.

Iliaca. Feathers of the upper part of the body steel-blue at the base, olive in the middle and tip with brown, beneath white, a few tip with chestnut; tail-feathers and coverts above rufous.

Inhabits *North America*: size of a thrush.

Bill yellow with a brown ridge and tip; temples white; lower wing-coverts cinereous, edged and tip with white, the upper rufous; quill-feathers blackish-brown, the outer edge rufous; legs yellow.

Cyanomelas. Blue; line between the eyes and crescent on the back black; equal tail and quill-feathers black-brown, the latter edged with blue. Blue-headed F.

Size of *F. linota*. Bill and legs brown.

Pissa. Red; crown, wings and tail blue; belly pale ash; rump yellow; back and lesser wing-coverts purplish, the greater green. Azure-headed F.

Inhabits *China*; 4 inches long.

Cyanocephalus. Head blue; neck above red; back ferruginous; belly, rump and thighs blueish-hoary; wings, tail and legs black. Blue-crowned F.

Inhabits near the river *Senegal*.

Torquatus

Torquata. Above ferruginous, beneath white; head red; rump blueish; arch on the cheeks, legs, tail and quill-feathers black, the latter tipped with blue, and with a white spot near the tip. *Lunar F.*

Inhabits India: $6\frac{1}{2}$ inches long.

Multicolor. Black, beneath yellowish; vent yellow; cheeks yellowish; lower part of the back green; wing-coverts with a white spot; secondary quill-feathers with white lines near the tip. *Green-rumped F.*

Inhabits Ceylon. Bill blueish; legs grey.

Maja. Purplish; pectoral band deeper. *Cuba F.*

Inhabits Cuba: $3\frac{1}{4}$ inches long; feeds on rice.

Bill grey; head, neck and body beneath blackish; quill-feathers grey-brown, edged with bay; legs lead-colour.

**Domestica.* Quill and tail-feathers brown; body grey and black; wings with a single white band. *House-Sparrow.*

2. White.

3. Yellow, above clouded with chestnut.

4. Blackish.

Inhabits Europe, Africa and Asia; $5\frac{1}{2}$ inches long; frequents inhabited places, and builds often under the eaves of thatched houses; feeds on seeds and fruits, and infests gardens; is proverbially falacious; eggs pale ash-colour with thick-set brown spots.

Bill black; crown grey; under each eye a black spot, and above the corner of each a broad bay mark surrounding the hind-part of the head; cheeks white; chin and under side of the neck black, the latter edged with white; lesser wing-coverts bright bay, the last row black tipped with white.

Female, lower mandible white; beyond each eye a white line.

**Montana.* Quill and tail-feathers brown; body grey and black; wings with a double white band. *Tree Sparrow.*

Inhabits Europe and North America; $5\frac{1}{2}$ inches long; builds in trees, and like the last is very gregarious.

Bill, chin and spot on the ears black; head and nape bay; body above reddish-brown spotted with black, beneath whitish; wing-coverts black, edged with rufous; tail-feathers blackish, edged with rufous; legs yellowish.

Female without the black spots.

Pinetorum.

Pinetorum Above reddish-festaceous, beneath yellow ; breast with a transverse ferruginous band. *Pine F.*
Inhabits the pine groves of *Siberia*.

Sylvatica. Head barred ; body above varied with black and grey ; breast and belly hoary. *Wood F.*
Inhabits the pine forests of *Siberia*.

Hudsonia Above black, beneath white ; outmost tail-feathers white. *Hudson's Bay F.*
Inhabits *Hudson's Bays*.

Flavicollis. Above cinereous, beneath whitish ; chin white ; throat with a yellowish spot ; primary quill-feathers black, edged with brownish ; bill and legs blueish-grey. *Yellow-throated F.*
Inhabits *New York*.

Cristata. Chestnut, beneath red ; crested crown red ; temples black. *Black-faced F.*
Inhabits *Carolina* and *Cayenne* : $6\frac{1}{2}$ inches long.
Bill and *rump* red ; *legs* brown ; *tail* long.

Carolinensis. Red-brown ; belly white ; face and pectoral band black ; throat and rump scarlet. *Carolina black-faced F.*
Inhabits *Carolina* : $5\frac{1}{2}$ inches long.
Bill and *legs* brownish ; *wings* black ; *tail* short.

Bicolor. Head and breast black ; back, wings and tail dirty-green. *Bahama Sparrow.*
Inhabits *Bahama* and *Jamaica* : 4 inches long.
Bill and *chin* black.

Abyssinica. Yellow, beneath and collar black ; wings and tail black, edged with yellowish. *Black-collared F.*
Inhabits *Abyssinia* ; size of the *Canary* bird.
Vent yellowish ; *legs* brownish.

Ultramarina. Blue ; bill white ; legs red. *Ultramarine F.*
Inhabits *Abyssinia* ; size of the last ; sings well.
Female and young bird grey.

Syriza.

- Syriaca*. Brown varied with blackish and yellow; beneath whitish with dusky spots; crown red. *Tripoline F.*
Inhabits *Syria*; size of *F. linota*; sings well.
Bill and *legs* lead-colour; *chin* and *throat* blackish varied with brown; *quill* and *tail-feathers* edged with orange.
- Crispa*. Olive, beneath pale yellow; head black; most of the feathers recurved. *Frizzled F.*
Inhabits *Angola* and *Brazil*; size of *F. caelebs*.
Bill white; *neck* black; *legs* brown.
- Indica*. Brown-ash, beneath rufous-white; bill, head, band on the throat, quill-feathers and wing-coverts black; frontlet, orbits and chin white. *Collared F.*
Inhabits *India*; size of *F. caelebs*.
Wing-coverts and *secondary quill-feathers* edged with rufous.
- Ochracea*. White; head, sides of the neck, breast and wing-coverts ochre; bill and legs yellow. *Ochre F.*
Inhabits *Austria*; size of *F. caelebs*; *hind-head* subcrested.
- Testacea*. Testaceous waved with black; quill and tail-feathers brown; bill and legs flesh-colour. *Testaceous F.*
Inhabits *Lusitania*; $5\frac{1}{2}$ inches long. *Eyes* black.
- Imperialis*. Rosy-ferruginous; crown and body beneath yellow; wings and short tail dusky. *Imperial F.*
Inhabits *China*; 4 inches long. *Bill* and *legs* flesh-colour.
- Australis*. Brown with a ferruginous collar. *Rusty-collared F.*
Inhabits *Terra del Fuego*.

84. PHYTOTOMA. *Bill* conic, straight, ferrate: *nostrils* oval: *tongue* short, obtuse: *feet* 4-toed.

- Rara*. Ph. *Molin. Chil. p. 226.*
Inhabits *Chili*; nearly the size of a quail; has a harsh interrupted cry resembling the syllables *Ra, Ra*; feeds on fresh vegetables which it cuts down near the roots with its bill as
Vol. I. — 4 D with

with a saw, and is on this account a pest to gardens, and detested by the natives; builds in high, shady trees, in retired places; eggs white spotted with red.

Bill thick, $\frac{1}{4}$ an inch long, toothed each side like a saw; *iris* brown; *body* above dusky-ash, beneath paler; *quill* and *tail-feathers* spotted with black; *tail* rounded; *hind-toes* shorter than the fore-ones.

85. MUSCICAPA. *Bill* nearly triangular, notched each side, bent in at the tip, and beset with bristles at the root: *toes* (mostly) divided to their origin.
Fly-catcher.

The whole of this tribe feed on insects, chiefly flies.

Paradisi. Crested head black; body white; tail wedged, the 2 middle feathers very long. *Paradise F.*

2. Head greenish-black; body chesnut, beneath white; lower part of the neck and breast grey.
3. Chesnut, beneath white; breast blueish.
4. Body paler; wing-coverts golden.

Inhabits *Africa* and *Asia*: $8\frac{1}{4}$ inches long.

Head, *neck* and *chin* greenish-black; *back*, *rump*, *throat* and *body* beneath white; *wing-coverts* and *quill-feathers* black, edged with white; 2 middle *tail-feathers* 15 inches long; *legs* lead-colour.

Mutata. Head crested; tail wedged; 2 middle tail-feathers very long; eyebrows blue. *Mutable F.*

2. Body and tail cinnamon.
3. Chesnut; 2 middle tail-feathers varied with black and white.

Inhabits *Madagascar*: $11\frac{1}{2}$ inches long.

Bill and *legs* black; *head*, *neck* and *back* greenish-black, the latter varied with white; *body* beneath white; *wings* black longitudinally white in the middle; 2 middle *tail-feathers* $4\frac{1}{4}$ inches longer than the others, white, with a black spot near the tip, the rest white on the inner and black on the outer webs.

Striated

Striata. Greenish-ash ; back streaked with black, beneath yellowish ; chin and sides of the neck spotted with brown ; 3 outmost tail-feathers tipped with white. *Striped F.*

Inhabits *North America* : 5 inches long.

Bill black ; *cheeks* white ; *nape* varied with black and white ; *chin* and *sides* spotted with black.

Female, head yellowish-green, streaked with black ; *eyebrows* and *eyelids* yellow.

Martinica. Head crested ; body brown, beneath cinereous ; outer edge of the quill-feathers whitish. *Martinico F.*

Inhabits *Martinico* ; 6 inches long.

Feathers of the *crown* at the base, and *quill-feathers* at the edge whitish ; *legs* cinereous.

Fusca. Brown, beneath yellowish-white ; bill, crown and legs black. *Black-headed F.*

Inhabits *Carolina* ; 6½ inches long.

Tail a little forked. *Female*, crown blackish.

Tyrannus. Tail very long, forked ; body black, beneath white. *Forked-tailed F.*

Inhabits *Canada* and *Surinam* : 14 inches long.

Middle feathers of the *crown* yellow at the base ; *neck* above, *back*, *rump*, lesser *wing-coverts* and *shoulders* cinereous ; greater *wing-coverts* and *quill-feathers* brown, the latter white on the inner edge ; outmost *tail-feathers* half white on the outer side.

Pygmaea. Pale grey, beneath white ; tail forked ; quill and tail-feathers black, edged with grey, the outmost of the latter half white on the outer webs.

Swallow-tailed F.

Inhabits *New Spain* : 10 inches long.

Bill and *legs* black ; *irids* red ; beneath the *wings* a red blotch ; *wing-coverts* pale at the edges, the lesser cinereous, greater blackish ; *tail* 5 inches long.

Surinama. Tail rounded, tipped with white ; body black, beneath white. *Surinam F.*

Uliginosa. Black-brown, the feathers edged with yellowish-brown, beneath whitish ; quill and equal tail-feathers edged with whitish. *Brown F.*

4 D 2

Inhabits

Inhabits *Cayenne* ; hardly 4 inches long.

Bill and *legs* black ; *breast* mixed with brownish.

Aurantia. Greenish-rufous, beneath white ; breast orange ; head and neck above greenish-brown ; quill-feathers black, edged with rufous. *Orange-breasted F.*

Inhabits woods of *Guiana* ; $4\frac{1}{4}$ inches long.

Bill black ; *legs* pale.

Coronata. Brown ; crest on the head rounded ; temples and body beneath red. *Round-crested F.*

Inhabits near the *Amazon* ; $5\frac{1}{2}$ inches long.

Quill-feathers edged with grey ; *legs* reddish. *Female*, crest o.

Malachura Brown, beneath ferruginous ; throat (of the male) blue ; tail long, wedged, with loose-webbed feathers. *Soft-tailed F.*

Inhabits marshy places of *New South Wales* ; lives among long grass and rushes, in which it hides itself very dextrously : 3 inches long. *Linn. Transf. 4. p. 240.*

Bill brownish-black ; head with a pale azure bar from the base of the bill over the eye ; front and cheeks ferruginous ; middle of the belly nearly white ; feathers of the back and rump long, soft, silky ; wings short, brownish-black, edged with rufous-brown ; body above streaked with brownish-black ; tail above 4 inches long, the shafts black, slender, and armed each side with minute, slender, black filaments like hair.

Female without the azure throat and bar over the eye.

Rufescens. Glossy pale rufous, beneath white ; quill-feathers black ; crown with a brown band. *Rufous F.*

Inhabits *Cayenne* ; $5\frac{1}{2}$ inches long. *Bill* and *legs* black.

Cinerea. Cinereous ; rump, tail and body beneath rufous. *Rufous-bellied F.*

Inhabits *Cayenne* : $8\frac{1}{2}$ inches long.

Upper mandible black, lower grey ; feathers of the throat whitish at the edge ; quill-feathers edged with rufous.

Pygmaea. Beneath straw-colour ; head and neck rufous spotted with black ; feathers of the back and wing-coverts cinereous, edged with greenish ; quill-feathers black, edged with grey ; tail black, short. *Dwarf F.*

Inhabits

Inhabits *Cayenne*: hardly 3 inches long.

Bill black; beneath the *eyes* a pale streak; *shoulders* and *rump* pale cinereous; *legs* flesh-colour.

Minuta. Olive-grey; wings blackish with a few yellowish streaks.

Petty F.

Inhabits *South America*; something larger than the last.

Upper part of the *back* and *belly* shaded with green.

Barbata. Olive-brown, beneath greenish-yellow; crown orange; rump yellow.

Whiskered F.

Inhabits *Cayenne*: 5 inches long.

Bill depressed, broad; *whiskers* longer than the bill.

Female greenish-black, beneath yellowish; *breast* brownish; crown with an oblong yellow spot.

Pubricollis Black; chin and throat with a large purple-red spot.

Purple-throated F.

Inhabits woods of *South America*: 12 inches long; is gregarious, feeds on fruits and insects, and often associates with the toucan. *Bill* black

Crinita. Crested head and neck blueish; belly yellowish; back greenish; quill and tail-feathers rufous.

Crested F.

Inhabits *Carolina* and *Virginia*; 8 inches long.

Bill and *legs* black; *head*, *neck* and *back* green; *wings* and *tail-coverts* brown; *chin*, *throat* and *breast* cinereous.

Ferox. Brown; chin, throat and breast cinereous; belly yellowish; greater wing-coverts edged with olive.

Tyrant F.

2. Body brown inclining to rufous; legs.

Inhabits *Cayenne*; 7 inches long. *Legs* blackish.

Ludovicianae. Grey-brown, beneath yellowish; chin cinereous; quill and tail-feathers edged with rufous.

Louisiane F.

Inhabits *Louisiana*: size of the last.

Greater wing-coverts varied with white.

Ludax. Blackish waved with rufous, beneath yellowish; crown yellow; frontlet white; rump and tail rufous.

Yellow-crowned F.

Inhabits

Inhabits *Cayenne* ; 8 inches long.

Bill black ; *ocular band* blackish.

Female without the yellow crown ; *legs* dusky-blue.

• *Atricapilla*. Black ; beneath, spot on the front and shield on the wings white ; lateral tail-feathers white without.

Pied F.

2. Above varied with grey ; thighs varied with brown and white ; 3 outmost tail-feathers edged with white.

3. Collar white ; outmost tail-feathers edged with white.

4. Brown ; beneath, front, sides of the head and longitudinal line from the shoulder to the back white.

Inhabits *Europe*, 4) *India* : $4\frac{1}{4}$ inches long.

Bill and *legs* black ; *tail-coverts* spotted with white.

Female brown, beneath white ; without the frontal spot.

Ruticilla. Black ; breast, spot on the wings and base of the quill and tail-feathers yellow.

Yellow-tailed F.

Inhabits *America*, *Jamaica* : $4\frac{1}{4}$ inches long.

Bill blackish ; *belly* and *vent* pale orange ; *tail* orange, black near the end ; 2 middle tail-feathers black ; *legs* brown.

Female above brownish-black, beneath white ; *tail*, spot on the wings and *flanks* yellow.

Virens. Greenish-brown, beneath pale yellow ; eyebrows white.

Cinereous F.

Inhabits during summer in *Carolina* : $5\frac{1}{4}$ inches long.

Upper mandible black, lower yellow ; wings brown, edged with white ; *tail* brown ; *legs* black.

Viridis. Green, beneath yellow ; belly and vent whitish ; eyebrows and spot under the eye whitish ; tail brown.

Chattering F.

Inhabits unfrequented places of *Carolina* : $7\frac{1}{4}$ inches long ; is very shy, and flies with its legs extended.

Bill and *legs* black ; a white line parallel to the lower mandible.

Sibirica. Brown ; throat and vent spotted with white.

Dus F.

Inhabits *Siberia* and *Kamtschatka*.

Body beneath inclining to cinereous.

Erythropis

Erythropis Spotted, beneath white; front red. *Red-faced F.*
Inhabits *Siberia*. Under the wings rufous.

Cayanensis Brown, beneath pale yellow; eyebrows white; crown pale orange. *Cayenne F.*
Inhabits *Cayenne* and *St. Domingo*: $7\frac{1}{4}$ inches long.
Bill and *legs* black; middle feathers of the *crown* orange at the base; *chin* white; upper feathers of the *body* edged with olive; *quill* and *tail-feathers* edged with rufous.

Canadensis Cinereous, beneath pale yellow; lores yellow; crown spotted with black. *Canada F.*
Inhabits *Canada*: $4\frac{1}{2}$ inches long.
Bill grey-brown; beneath the *eyes* a black spot; *throat* spotted with black; *quill-feathers* grey-brown, edged with cinereous; *legs* yellowish.

Cinnamomea Yellowish-cinnamon; bar on the wings and tips of the coverts yellow; quill-feathers black, edged with ferruginous. *Cinnamon F.*
Inhabits *Cayenne*: 8 inches long. *Bill* black.

Spadicea Chestnut; quill-feathers and even tail brown; wing-coverts edged with rufous; rump yellow; belly and vent yellowish. *Yellow-rumped F.*
Inhabits *Cayenne*: 7 inches long. *Bill* brown.

Olivacea Olive, beneath whiter; eyebrows white; eyes red. *Red-eyed F.*

2. Eyebrows olive; wings with a double pale band.

Inhabits in summer *Carolina*, in winter *Jamaica*: $5\frac{1}{2}$ inches long.

Bill lead-colour; ocular band brownish, parallel to which is another whitish; *quill* and *tail-feathers* edged with white; *legs* brown.

Senegalenfis Variegated; eyebrows white; outmost tail-feathers half white. *Senegal F.*

2. Breast black; body above waved with black and white.

Inhabits near the *Senegal*: $4\frac{1}{2}$ inches long.

Bill and *legs* black; *body* varied with black, brown and white; *cheeks* black; *breast* pale rufous; 4 middle *tail-feathers* black, the rest tipped with white.

Cristata.

Cristata. Crested head and throat glossy black; body above bay, beneath cinereous; tail wedged. *Crested Senegal F.*
 Inhabits near the *Senegal*: $8\frac{1}{4}$ inches long.
Bill cinereous; greater wing-coverts and quill-feathers brown, edged with bay; tail purplish-bay; legs grey.

Borbonica. Beneath cinereous; head greenish-black with a violet gloss; back and tail pale bay; rump grey; quill-feathers black, edged with bay. *Bourbon F.*
 Inhabits the *Island Bourbon*: 5 inches long.
Bill grey; lesser wing-coverts pale bay, middle ones black tipped with rufous, greater black tipped with white; legs brown.

Melanoptera. Cinereous, beneath white; throat brownish-bay with a transverse black bar beneath; bill, wings and tail black. *Collared F.*
 Inhabits near the *Senegal*: $4\frac{1}{4}$ inches long.
Wing-coverts with a white band; quill-feathers edged with grey; 2 middle tail-feathers black, the rest tipped with white, the outmost white on the outer side.

Nigrifrons Brown, beneath olive-brown; front and temples black; chin and throat yellow; tail-feathers olive-brown, the 2 middle ones brown. *Black-fronted F.*
 Length 4 inches. *Bill* blackish; legs black.

Lencura. Grey-ash, beneath white; bill, legs and middle tail-feathers black, the rest obliquely half white, outmost nearly white. *White-tailed F.*
 Inhabits the *Cape of Good Hope*: 4 inches long.

Pondiceriana. Grey-ash, beneath white; lateral tail-feathers half white; spot on the wing-coverts and eyebrows white. *Coromandel F.*
 Inhabits *Coromandel*: less than a sparrow; sings well.
Bill and legs black.

Afra. Dirty-yellowish spotted with black; crown rufous streaked with black; tail and wings rufous, the latter edged with brown. *Spotted-yellow F.*
 Inhabits

Inhabits the *Cape of Good Hope*: 8 inches long.

Sides of the *neck* with 2—3 dark stripes and one from the mouth.

Canc. Cinereous; head, nape and chin blackish; vent white; quill-feathers black, edged with cinereous; bill and tail black; lateral tail-feathers cinereous at the tips; middle ones cinereous, blackish at the tips.

Ash-coloured F.

Inhabits *Madagascar*: $8\frac{1}{2}$ inches long.

Madagaf- Olive; chin yellow; throat and breast yellowish.

cariensis.

Madagascar F.

Inhabits *Madagascar*: $7\frac{1}{2}$ inches long.

Bill brown; *legs* grey.

Undulata. Waved with whitish and brown; head blackish; wings rufous-brown. *Undulated F.*

Inhabits the *Isle of France*; less than *M. atricapilla*.

Tect. Brown varied with small rufous spots, beneath pale rufous; throat whitish; tail and quill-feathers at the edges and the latter tip with rufous. *Indian F.*

Inhabits the *Island Bourbon*: $4\frac{1}{4}$ inches long.

Bill and *legs* brown.

Female white where the male is rufous.

Rufoven- Black; vent and lower tail-coverts rufous; legs reddish.

tris.

Rufous-vented F.

Inhabits *Bourbon*: $4\frac{1}{2}$ inches long.

Comata. Black: beneath, rump and tips of the middle tail-feathers white; vent yellow; head crested.

Inhabits *Ceylon*. *Legs* blueish.

Hemor- Waved with brown, beneath white; vent red; subcrested
rhousa. head and tail black. *Red-vented F.*

2. Vent yellow; tail black with a white bar towards the tip.

Yellow-vented F.

Inhabits *Ceylon*, 2) *Java*: $4\frac{1}{2}$ inches long. *Legs* black.

Pfidi. Brown, beneath white; vent yellowish; crown, lores and legs black; eyebrows white. *Guava F.*

Inhabits *Manilla*; less than a sparrow. *Iris* yellowish.

Vol. I. — 4 E

Melanis.

- Melanicteria*. Head and cheeks black ; back and wing-coverts grey-brown varled with yellow ; breast yellow ; quill and tail-feathers black, edged with yellow. *Yellow-breasted F.*
Inhabits *Ceylon* : size of a gold-finch ; sings well.
Bill grey ; legs blueish.
- Nitens*. Green-gold ; wings black ; throat and breast rufous ; rump and belly yellow ; tail-feathers long, green on the outer and black on the inner webs. *Green F.*
Inhabits *India*.
- Sinenfis*. Greenish-grey ; head, bill and legs black ; chin white ; throat and breast grey ; belly and vent yellowish ; quill-feathers yellowish-green. *Wreathed F.*
Inhabits *China* : size of a sparrow.
- Grisea*. Black, beneath reddish ; throat grey ; wing-coverts with a white band ; tail a little wedged. *Grey-necked F.*
Inhabits *China*. Legs yellowish-brown.
- Flavicollis*. Above green ; crown and orbits yellowish ; face black ; throat and edges of the quill and tail-feathers yellow ; belly greenish with 3 yellow spots. *Yellow-necked F.*
Inhabits *China* : $6\frac{1}{2}$ inches long.
Bill red, each side of the mandible a black streak ; tail a little forked ; 2 middle tail-feathers tipped with white ; legs reddish.
- Flammea*. Black ; back, last wing-coverts, breast, vent, edges of the secondary quill-feathers and tips of the tail-feathers orange. *Flammeous F.*
2. Hoary, beneath scarlet ; chin black ; 4 first quill-feathers red at the base.
Inhabits *India* : 6 inches long.
Female, head and back cinereous ; belly and vent yellowish ; rump and transverse band on the wings orange ; tail yellow beneath.
- Fuscescens*. Brownish, beneath whitish ; head subcrested ; rump and vent orange. *Orange-vented F.*
Inhabits *China* : 6 inches long.
Bill red ; tail somewhat forked ; legs purplish.

Luzon.

- Luzonien-* Black glossy violet, beneath grey; wings with a white
sis. stripe in the middle. *Black F.*
Inhabits *Philippine Isles* and *Madagascar*; very small.
- Philippen-* Grey-brown, beneath whitish; eyebrows white.
sis. *Philippine F.*
Inhabits *Philippine Isles*; size of a nightingale.
- Cerulea.* Blue; hind-head and breast with a black spot; belly and
vent blueish-white; quill and tail-feathers dusky-blue.
Azure F.
Inhabits *Philippine Isles*; 5 inches long.
Bill black; *quill-feathers* edged with blue-grey; *legs* pale
chestnut.
- Cyanoce-* Red, beneath brownish; head blue; tail-feathers tipped
phala. with black. *Blue-headed F.*
Inhabits *Manilla*; size of a linnet.
Bill and *legs* brown.
- Manillensis* Hind-head and back grey; rest of the head and nape
black; middle of the back bay; chin yellow; middle
tail-feathers black, lateral ones white.
Yellow-throated F.
Inhabits *Manilla*; larger than *M. cyanocephala*.
Bill, edge of the black *quill-feathers* and *legs* brown; 2 trans-
verse bands on the *checks*, *flanks* and *vent* white; *breast* red-
dish; middle of the *belly* yellow.
- Flabelli-* Above olive, beneath ferruginous; eyebrows, chin, throat,
fera. sides of the neck and lateral tail-feathers white;
middle tail-feathers head and collar black.
Fan-tailed F.
Inhabits *New Zealand*; 6½ inches long; flies with its tail ex-
panded like a fan, and is easily tamed.
Bill black; *wing-coverts* tipped with white; *tail* wedged; *legs*
black.
- Supercili-* Cinereous, beneath reddish-white; eyebrows black; tail
osa. wedged, the middle feathers black, the next each side
at the tip, the rest entirely white. *Supercilious F.*
Length 4½ inches; *bill* black; *legs* brown.

Caledonica Olive, beneath yellowish-white; chin and vent yellow; quill-feathers ferruginous. *Olive F.*
Inhabits *New South Wales*; 6 inches long. *Legs* black.

Lutea. Whitish-yellow; wing-coverts and quill-feathers spotted with black; tail dusky towards the tip. *Luteus F.*
Inhabits *Otaheite*; 6 inches long.
Bill and *irids* lead-colour; *legs* cinereous; *claws* black.

Ochrocephala. Head, neck and breast golden; body above yellowish-green, beneath white. *Yellow-headed F.*
Inhabits *New Zealand*; 5½ inches long. *Legs* black.

Flavifrons Yellow-olive, beneath yellow; front, eyes, edges of the blackish quill-feathers and brown tail-feathers yellow; arch over the eyes white. *Yellow-fronted F.*
Inhabits *Tanna Island*; 5½ inches long.
Bill plumbeous; *tail* olive-brown; *legs* blueish.

Navia. Black; middle of the back and shoulders spotted with white. *Navous F.*
Inhabits *New South Wales*; 8¼ inches long.

Multicolor. Black; front white; breast and belly red; vent reddish. *Red-bellied F.*
Inhabits *Norfolk Island*; 4½ inches long.
Lower mandible yellowish at the base; lower wing-coverts white; *legs* long, slender, yellowish-brown.
Female brown; *chin* and *lores* grey-brown; *breast* and *vent* pale orange; *vent* whitish-yellow.

Sandwichensis. Brown, beneath and eyebrows whitish; breast ferruginous; wing-coverts, quill and lateral tail-feathers tipped with white. *Sandwich F.*
Inhabits *Sandwich Islands*; 5½ inches long.
Bill black with a yellowish base; *legs* black; *chin* streaked with black; middle *tail-feathers* all brown.

Obscura. Brown, beneath paler; tail-feathers long, even, pointed; belly inclining to rufous. *Dusky F.*
Inhabits *Sandwich Islands*; 7¼ inches long.
Bill slightly notched near the tip; *legs* black.

Maculata.

Maculata. Ferruginous, beneath pale chestnut: quill-feathers black; wing-coverts with a rusty-white spot near the tip; tail-feathers brown, the outmost tip with white.

Spotted-winged F.

Inhabits *Sandwich Islands*.

Bill black, the base of the lower mandible edged with yellow.

Torquata. Black, beneath white; breast rufous; innermost quill-feathers tip with white, (male). *Cape F.*

2. Brown, beneath white; breast black; wings with a rufous band; tail-feathers tip with white, (female).

Inhabits the *Cape of Good Hope*; 4½ inches long.

Sides of the neck, collar and spot in the middle of the wings white.

Bill black; legs brown.

Bicolor. Black; front, orbits, throat, rump, spurious wings, band on the greater wing-coverts, tips of the tail-feathers and body beneath white. *Black and white F.*

2. White; hind-head, neck, wings, rump and tail black.

Inhabits *Cayenne*; 4½ inches long. *Female, 2) all grey.*

Carolinensis. Brown, beneath cinereous; head black; vent red. *Cat F.*

Inhabits *Virginia*; 8 inches long; mews like a cat.

Bill and crown black; tail even, blackish.

Ochroleuca. Dirty-olive, beneath whitish-yellow; chin and edge of the wings yellow; primary quill and tail-feathers olive.

Golden-throat F.

Inhabits *New York*.

Nitida. Pale green; wing-coverts edged with white; quill and tail-feathers blackish, edged with yellow. *Nitid F.*

Inhabits *China*; a small species.

Atra. Olive-ash; breast cinereous; belly whitish-yellow; head, tail and quill-feathers black, the secondaries at the edge and outmost tail-feathers on the outer webs white. *Dark F.*

Inhabits *New York*; feeds on bees. *Legs black.*

Novbor-

- Novaboracensis.* Greenish: middle of the belly and 2 bands on the wings white: chin cinereous: spot each side the bill and flanks yellow: primary quill and tail-feathers black, edged with green. *Hanging F.*
Inhabits New York from May to August.

- Passerina.* Blackish, beneath white; tail black. *Passerine F.*
Inhabits Tanna in the Pacific Ocean.

- Acadica.* Subcrested, green-ash, beneath yellowish-white: wings with a double white band. *Lesser-crested F.*
Inhabits Nova Scotia. Legs black.

- Aidon.* Rusty-brown, beneath yellowish-white: middle tail-feathers subequal, the outmost each side much shorter.
Inhabits *Dauria*: size of *Turdus arundinaceus*; sings in the night very charmingly.

- Novæ Hollandiæ.* Brown, beneath whitish: under the eyes each side as far as the ears a yellow streak. *New Holland F.*
Inhabits New Holland: 7 inches long.
Bill yellowish, dilated at the base; tail a little forked.

- Ferruginea.* Brown-rufous, beneath whitish-yellow: chin white: wings black, edged with rusty: tail-feathers beneath glaucous, above black, edged with brownish, the outmost short, white. *Rusty F.*
Inhabits Carolina: 5½ inches long.
Bill black, the mandibles edged with brown; legs brown.

- Nigra.* Totally black: bill, head and legs dusky-black.
Inhabits Society Islands.

- Ochracea.* Neck and breast ferruginous-ash: wings and tail black-ash.
Inhabits the Cape of Good Hope.
Head and back brown; belly rusty-ochre; near the ears some tufts of long, fringed feathers; quill-feathers, wing-coverts and tail-feathers at the tip and inner side black, outer white; legs black; claws yellow; tail as long as the body.

Albifrons.

Albifrons. Above black-brown : throat and breast whitish : belly pale ferruginous : front whitish : bill and legs black.

Inhabits the *Cape of Good Hope*.

Primary *quill-feathers* brown, the outer edge ferruginous.

Melanoleuca. Snowy, the feathers brown at the base : breast palish yellow : head and neck as far as the middle, wings, tips of the tail-feathers, bill and legs black.

Inhabits *Georgia*, in summer ; 6 inches long.

Female dirty-ash where the male is brown, and brown where the male is black.

Petechnia. Brown, beneath cinereous spotted with rufous : throat and vent rufous. *Petechnial F.*

Inhabits *Martinico* ; 6½ inches long.

Lateral *tail-feathers* edged with brownish and white.

Fregata. Brown, beneath whitish-brown with longitudinal brown streaks : crown sub-crested, varied with cinereous and yellow : edge of the quill-feathers and 2 bands on the coverts rufous. *Streaked F.*

Inhabits *Cayenne* ; 4½ inches long.

Bill black ; *legs* brown.

Agilis. Olive-brown, beneath whitish : quill and tail-feathers black, edged with olive-brown. *Active F.*

Inhabits *Cayenne* ; size of the last ; is continually hunting after insects, which it picks out from under the bark of trees.

Bill blackish ; *chin* tinged with rufous ; *tail* long ; *legs* brown.

Griseola. Brownish, beneath whitish : neck longitudinally spotted : vent pale rufous. *Spotted F.*

Inhabits *Europe* ; 5½ inches long ; appears in *England* in the spring, and retires in August ; builds in holes of walls or hollow trees ; is fond of cherries ; eggs pale spotted with reddish.

Bill black, whitish at the base ; inside of the *mouth* yellow ; *head* large, brownish, spotted with black ; *back* mouse-colour ; *wings* and *tail* black, the former edged with white ; *chin* spotted with red ; *legs* black.

Dichroa.

Dichroa. Above cinereous, beneath ochre ; tail-feathers partly ochre, partly cinereous. *Two-coloured F.*
Inhabits *Africa*. Bill and legs blackish.

Deserti. Body ferruginous and sooty ; wings and tail blackish ; bill yellowish. *Desert F.*
Inhabits deserts of *Arabia*. Legs black.

Javanica. Tail very long, rounded ; body varied with black and ferruginous, beneath white ; throat black ; eyebrows white. *Javan F.*
Inhabits *Java* : size of *M. grisola*.
Bill and legs black ; feathers of the body above blackish tipped with ferruginous ; 8 of the tail-feathers tipped with white.

Alba. White ; head yellowish-sulphur. *White F.*
Inhabits round *Stockholm*.
Bill white, a little depressed ; head, throat and part of the neck yellowish. Perhaps a *Motacilla*.

Cambaien. Glossy-black ; back yellowish-green ; beneath tawny-yellow ; wing-coverts with a double white band. *Cambay F.*
Inhabits *Cambay* ; size of *M. atricapilla*.
Bill depressed, broad, blackish ; wing-coverts tipped with white, forming a double band ; legs blueish.

86. MOTACILLA. Bill subulate, straight ; the mandibles nearly equal : nostrils oboval : tongue lacerate at the end.
Wag-tail. Warbler.

• *Luscina.* Rufous-ash, beneath white-ash ; tail-feathers rufous-brown ; bracelets cinereous. *Nightingale.*
2. Body something larger.
3. Body entirely white.

Inhabits *Europe, Asia and Africa* : $6\frac{1}{4}$ inches long ; is of all birds the most famed for its song ; visits *England* the beginning of April and leaves it in autumn ; frequents thick hedges ; sings the greater part of the night and during the

time that the hen is hatching; breeds 3—4 times a year, and lays 4—5 greenish-brown eggs; feeds on the larvæ of insects.

Bill brown; *head* and *back* pale mouse-colour with olive spots; *tail* red-mouse-colour; *legs* and *quill-feathers* brownish, the latter chestnut on the outer edge.

Calidris. Above greenish-brown, beneath tawny; ocular line and one beneath black. *Hang-nest W.*

Inhabits *Jamaica*; size of a robin; builds a hanging nest.

Bill blackish; lateral *tail* and *quill-feathers* within rufous; *temples* orange; *wing-coverts* edged with yellowish; *legs* blackish.

Bonariensis. Black; throat and flanks ferruginous; face, chin, middle of the belly and outmost tail-feathers white. *White-chinned W.*

Inhabits *Bonaria*; $5\frac{1}{2}$ inches long.

Bill blackish; *hind-claw* large.

Palmarum. Brown, beneath dirty-yellowish-white; belly yellowish; rump olive; 2 outmost tail-feathers with a white band near the tip. *Palm W.*

Inhabits *St. Domingo*; 5 inches long; feeds on seeds and fruits; has a fine note, and builds among palm trees.

Banani-cora. Black-grey, beneath yellowish; armpits yellow; vent varied with yellow and grey; chin cinereous; tip of the tail-feathers, spot on the wings and eyebrows white; lores black. *Banana W.*

Inhabits *St. Domingo*; $3\frac{1}{2}$ inches long; feeds on seeds, insects and fruits, particularly bananas.

Vermivora. Olive; head, throat and breast tawny; ocular band and arch over the eyes black; over the eyes a yellowish line; vent cinereous. *Worm-eating W.*

Inhabits *Pensylvania*; size of the hedge-sparrow.

Bill black, beneath flesh-colour; *legs* flesh-colour.

Madagascariensis. Olive-brown; head rufous; chin white; breast reddish; belly brown-rufous. *Madagascar W.*

Inhabits *Madagascar*; $6\frac{1}{2}$ inches long.

Bill and *legs* brown.

- *Modularis*. Above grey-brown; wing-coverts tipped with white; breast blueish-ash. *Hedge-sparrow. Hedge W.*
 Inhabits *Europe*; $5\frac{1}{2}$ inches long; frequents low hedges, where it builds and lays 4—5 blueish eggs; sings through the whole winter.
Bill blackish; *cheeks* striped with white; feathers of the *back* and *wing-coverts* edged with chestnut; *wings* and *tail* dusky; *rump* greenish-brown; *chin* and *breast* cinereous; *belly* whitish; *vent* yellowish; *legs* flesh-colour.
- Functorum*. Brown, beneath paler; tail somewhat forked. *Rusby W.*
 Inhabits *Virginia* and *Carolina*: less than the last.
- Aquatica*. Above pale rufous spotted with brown; throat and breast reddish; belly and rump whitish. *Aquatic W.*
 Inhabits *Italy*; migrates.
 Spot above the outer corner of the eye, and band at the base of the wing white; *tail-feathers* pointed.
- Schanobanus*. Testaceous-brown, beneath pale testaceous; head spotted. *Reed W.*
 Inhabits marshy woods of *Europe*; size of *M. hippolais*; is very tame, and sings through the whole winter.
Bill blackish; *quill-feathers* brown, edged with rufous; *tail* brown; *legs* whitish.
- Campestris*. Brown; head greenish-ash; tail the colour of the body; belly whitish. *Simple W.*
 Inhabits *Jamaica*; size of the hedge-sparrow.
Bill black; *neck* greenish-ash; *body* beneath brownish-white; *legs* brown.
- Macroura*. Brown, beneath whitish-yellow spotted with blackish; eyebrows white; tail wedged, long. *Great-tailed W.*
 Inhabits the *Cape of Good Hope*; 6 inches long.
- Longicauda*. Olive; crown reddish; quill-feathers olive-brown; tail-feathers long, narrow, the middle ones longer. *Long-tailed W.*
 Inhabits *China*; is tame, and has a fine note.

- Curueca.* Above brown, beneath whitish; tail-feathers brown, the outmost white on the thinner edge. *Babbling W.*
 Inhabits *Europe*; 5 inches long; builds in hedges and lays 3—5 greenish eggs spotted with brown.
Bill blackish; *crown* and streak beneath the eyes cinereous; *wing-coverts* on the inner edge white, outer edge rufous-grey, greater cinereous; *tail-feathers* edged with grey; *legs* brown.
- Passerina.* Cinereous, beneath grey-white; eyebrows whitish; wings and tail black. *Passerine W.*
 Inhabits *France* and *Italy*: 5½ inches long; has a simple note, and lays 4 whitish eggs spotted with green.
- Hippolais.* Greenish-ash, beneath yellowish; belly whitish; limbs brown; eyebrows whitish. *Lesser Petty-chaps.*
 Inhabits *Europe*; larger than the linnet; builds under beams, or in a low shrub; eggs white with small red spots.
Upper mandible black, lower blueish; inside of the *mouth* red; above and beneath the *eyes* a yellowish line; *quill* and *tail-feathers* mouse-colour, edged with greenish, the shafts black; lower *wing-coverts* yellow; *belly* silvery.
- Silvatica.* Above olive-green; throat and cheeks yellow; belly and vent fine silvery; tail-feathers brown, and except the first, green on the outer webs, and white on the inner. *Wood Wren.*
 Inhabits *England*; 5½ inches long; frequents woods, and searches about trees for insects. *Linn. Transf.* 2. 245.
Bill horn-colour; *irids* hazel; *breast* pale yellow; through the eye a yellow line; *tail* rather forked, brown; under part of the *shoulder* bright yellow; *legs* horn-colour.
- Sortensis.* Grey-brown, beneath rufous-white; eyebrows whitish; quill-feathers brown-ash, edged with grey, the outmost on the outer web and near the tip on the inner whitish. *Petty-chaps.*
 Inhabits *France* and *Italy*; 6 inches long; frequents gardens.
Bill blackish; lateral *tail-feathers* edged with grey-brown; *legs* brown.
- sa.* Rufous-grey, beneath white; eyebrows white. *Rufous W.*
 Inhabits *France* and *Germany*; 4½ inches long; lays 5 greenish-white eggs with dusky spots.
 4 F 2 *Salicaria.*

•*Salicaria*. Cinereous, beneath white; eyebrows white. *Sedge W.*

Inhabits sedgey places of *Europe*; size of *M. atricapilla*, but slenderer; sings in the night, and imitates the notes of other birds; eggs whitish varied with brown.

Bill black; *head* brown with dusky streaks; hind-part of the neck and back reddish-brown; back spotted with black; tail-coverts tawny; wing-coverts dusky, edged with pale brown, tail brown, wedged; legs dusky.

•*Sylvia*. Above cinereous, beneath white; first tail-feathers longitudinally half white, the second tip with white.

•2. Above reddish-ash, beneath reddish-white; throat white; outmost tail-feathers on the upper part of the inner side and whole of the outer side white.

White Throat.

Inhabits *Europe*: $5\frac{1}{2}$ inches long; migrates; frequents gardens, and builds in low bushes; lays 5 pale green eggs, sprinkled with reddish-brown spots.

Bill black, white at the base; head brownish-ash; back reddish.

Female, breast and belly snowy.

•*Sylviaella*. Brown-ash, beneath dirty-white; 2 middle tail-feathers shorter, subulate. *Lesser White Throat.*

Inhabits *Europe*; is common in the hedges in *England*; hardly 5 inches long; builds in low shrubs; eggs white spotted with brown.

Bill dusky, the base beneath yellowish; irids dusky; crown deeper than the body; legs brown.

•*Ficedula*. Brownish, beneath white; breast spotted with cinereous. *Epicurean W.*

Inhabits *Europe*: 5 inches long; flesh delicious.

Bill and legs blackish; wings brown-ash with a white band; tail-feathers black, edged with grey-brown, the outmost white on the outer side; neck white.

•*Naxia*. Reddish-brown varied with yellowish and cinereous, beneath white; breast yellowish spotted with black; quill and tail-feathers blackish, edged with white. *Fig-eater.*

Inhabits *Italy*: $5\frac{1}{2}$ inches long; feeds on figs and grapes.

Bill chestnut; legs reddish; claws black.

Patagonia.

Patagonica. Cinereous; chin, throat, eyebrows and outmost tail-feathers white; wings varied with brownish, the coverts with a brownish band; quill-feathers edged with brown. *Patagonian W.*

Inhabits *Patagonia*: 9 inches long; feeds on sea-worms and shell-fish.

Bill black, edged with cinereous; body above streaked with white; legs black; hind-claw very long.

• *Provincialis.* Chestnut, beneath ferruginous; middle of the belly, edge of the quill-feathers, spurious wings and outer side of the outmost tail-feathers white; eyebrows red.

Dartford W.

Inhabits *Europe*: above 5 inches long.

Bill black, the base beneath white; irides scarlet; tail black, as long as the body; legs yellow.

Africana. Black; the feathers edged with rufous-grey, beneath whitish-rufous; crown rufous spotted with blackish; each side the chin a longitudinal black streak; quill and 4 middle tail-feathers brown, edged with rufous, the rest rufous on the outer side. *African W.*

Inhabits the *Cape of Good Hope*: $7\frac{1}{4}$ inches long.

Bill horn-colour; tail slightly wedged; legs grey-brown.

Novaboracensis. Varied with cinereous and brown, beneath yellowish, streaked with black; eyebrows white.

New York W.

Inhabits *New York* and *Louisiana*: $5\frac{1}{4}$ inches long.

Bill black; legs pale chestnut.

Umbria. Grey-brown, beneath white with a few black spots; back with dusky spots; rump yellowish; wing-coverts, tail-feathers and upper coverts black, edged with white.

Umbrose W.

Inhabits *Louisiana*: $5\frac{1}{2}$ inches long.

Bill black; greater quill-feathers and legs blackish.

Flavicollis. Grey, beneath white; throat pale yellow; front, eyebrows, and sides of the neck black; wings with a double white band. *Yellow-throated W.*

Inhabits *Carolina*: $5\frac{1}{4}$ inches long.

Tail-feathers black, lateral ones white on the inner side; bill black with a yellow spot each side the base; legs brown.

Trichias.

Trichias. Olive, beneath white ; head with a transverse white bar ; thighs and vent orange. *Orange-thighed W.*
Inhabits *Louisiana* : $5\frac{1}{2}$ inches long ; tail rounded.

Rufcanda. Brown, beneath white ; back inclining to rufous ; edge of the quill-feathers, wing-coverts and tail rufous ; chin white spotted with black ; breast pale brown. *Rufous-tailed W.*
Inhabits *Cayenne* : $5\frac{1}{4}$ inches long.

Fuscicollis. Greenish-brown ; breast and belly yellow ; tail greenish ; wing-coverts and quill-feathers brown, edged with pale rufous. *Yellow-bellied W.*
Inhabits *Cayenne* : size of a humming-bird.

Cerulea. Blue-grey, beneath white ; chin black ; wing-coverts and quill-feathers brown, the former with a white spot, the latter edged with blue-grey. *Blue-grey W.*
Inhabits *St. Domingo* : $4\frac{1}{2}$ inches long.

Americana. Blue-grey ; armpits olive-yellow ; throat and breast yellow ; belly and tips of the wing-coverts white ; tail pale at the tip. *Yellow-backed W.*
Inhabits *America*. Bill pale ; legs brownish.

Penfils. Grey, beneath yellow ; belly and eyebrows white ; lores spotted with yellow ; wing-coverts with alternate white and black bands. *Penfile W.*
Inhabits *St. Domingo* : $4\frac{1}{4}$ inches long ; sings very finely, and feeds also on fruits ; builds a hanging nest over water, open at the bottom and moveable by the wind.
Bill black ; head grey-black ; sides of the neck and flanks spotted with black ; 4 outmost tail-feathers spotted with white ; legs greenish-grey.

• *Alba.* Breast black ; 2 lateral tail-feathers obliquely half white. *White Wagtail.*
2. Whitish ; back, wing-coverts and tail pale ash ; bill and legs purplish.
3. Cinereous ; breast black ; frontlet, chin, cheeks, oblique band on the wings and 2 outmost tail-feathers white. Inhabits

Inhabits almost every where; 7 inches long; frequents the sides of ponds and small streams; feeds on insects; runs swiftly and continually wags its tail; lays 5 white eggs spotted with brown.

Bill, hind-head, nape, throat and legs black; front, orbits, sides of the neck and belly white; body above cinereous; greater quill-feathers blackish, secondary and wing-coverts dusky, edged with grey; middle tail-feathers black, edged with grey.

Female, crown brown.

Maderas- Black, beneath white: oblique band on the wings and lateral tail-feathers white. *Pied Wagtail.*
patensis.

Inhabits Madras.

Female cinereous where the male is black.

Cinerea. Grey-ash, beneath white: breast (in the male) with a band: tail black, the 2 outmost feathers mostly white. *Cinereous Wagtail.*

Inhabits Europe: 6½ inches long; frequents waters.

Bill and legs brown; primary quill-feathers blackish-brown, secondary and coverts blackish, edged with dull white.

Indica. Greenish-grey, beneath yellow: breast with 2 curved confluent bands: middle tail-feathers greenish-grey, the rest blackish-brown, the outmost and vent white.

Indian Wagtail.

Inhabits India. Irids yellow.

Viridis. Greenish: head, wings and tail cinereous: edges of the wings and tail, and belly white. *Green Wagtail.*

Inhabits Ceylon: 4 inches long.

Tchutschensis. Olive-brown, beneath white spotted with ferruginous: spot between the bill and eyes, 2 bands on the wing-coverts and greater part of the outmost tail-feathers white. *Tchutschchi Wagtail.*

Inhabits the shores of Tchutschchi.

Wing-coverts and primary quill-feathers brown; vent yellowish; tail long, blackish; legs black.

fra. Yellowish-brown, beneath yellow: lower tail-coverts white: bill, eyebrows, wings, tail and legs black.

African Wagtail.

Inhabits the Cape: less than M. alba.

Citreola.

Fiticola. Yellow : crescent on the nape blackish : back blueish-ash :
2 lateral tail-feathers half white.

Yellow-headed Wagtail.

Inhabits *Siberia* : much resembles *M. flava*.

•*Clava*. Breast and belly yellow : 2 lateral tail-feathers obliquely
half white. *Yellow Wagtail.*

2. Grey-ash, beneath and eyebrows yellow : quill and tail-
feathers black : wings with a white band.

Inhabits *Europe* and *Asia* : frequents woods and corn-fields ;
lays 5 lead-coloured eggs with yellowish spots.

Bill and *legs* black ; *hind-claw* very long ; *body* above olive ;
band through and one beneath the *eyes* black ; *throat* with a
few black spots ; middle and greater *wing-coverts* black,
edged with yellowish ; *tail* black.

Female, *eyebrows* whitish.

Tiphia. Green, beneath yellowish : wings black with 2 white
bands. *Green Indian W.*

Inhabits *Bengal* : size of *hippolais*.

Bill and *legs* blackish, the base of the former yellow ; *wing-co-*
verts brown, the middle and greater tip with white ; *quill*
and *tail-feathers* blackish, edged with yellow.

Sinenfis. Green, beneath flesh-colour : spot on the ears and stripe
from the eyes to the nape pale : tail pointed.

China W.

Inhabits *China* : 6 inches long. *Bill* and *legs* black.

Singalensis. Changeable green : throat orange : breast and belly yellow.
Cingalese W.

Inhabits *Ceylon* : 4½ inches long. *Bill* brown.

Zeylonica. Green, beneath yellow : crown, nape and wings black,
the latter with a bifid white band. *Ceylon W.*

Inhabits *Ceylon* : 4½ inches long. *Bill* blue-grey.

Olivacea. Olive : breast and belly white. *Olive W.*

Inhabits *Ceylon* : size of *M. modularis* ; lifts its tail into an
acute angle.

Bill whitish, covered at the base with yellowish feathers.

Caryophyll- Pale pink : bill and legs reddish.
lacea.

Pink-coloured W.

Inhabits *Ceylon* : very small.

Wings and *tail* growing dusky.

Alba

Albicapilla. Black, beneath whitish ; chin, spot on the crown and eyes white. *White-crowned W.*
Inhabits *China* : 7 inches long.

Grisea. Grey-ash ; crown, bill, throat and breast black ; ocular streak ; tip of the quill-feathers, belly and vent white. *Grisy W.*
Quill-feathers edged with grey ; legs cinereous.

Maculata. Spotted with black, above brown, beneath whitish ; orbits pale ochre ; rump brown ; tail black with a white base ; outmost tail-feathers without and at the tip white. *Spotted Wheat-ear.*
Inhabits *France* : size of a small lark.
Wing-coverts and quill-feathers black, edged with whitish.

Maffliensis. Rufous, beneath reddish-white spotted with blackish ; crown and neck above brownish-rufous ; under the eyes a pale yellow spot ; tail-feathers black, the middle ones edged with rufous, 4 next each side white, outmost all white. *Provence Wheat-ear.*
Inhabits *Provence* ; size of the last.
Bill black ; feathers of the crown and neck edged at the tip with blackish ; lesser wing-coverts and quill-feathers black, edged with rufous ; tail slightly forked ; legs yellowish ; hind-claw long.

Pileata. Head, middle tail-feathers and tips of the lateral ones black ; eyebrows, front, chin, rump, tail and belly white. *Black-headed Wheat-ear.*
Inhabits *Africa* and *China* ; 6 inches long. Bill black.

Aurantia. Brown, beneath orange ; throat whitish ; varied beneath with black ; greater wing and tail-coverts white ; tail-feathers brown, the lateral ones tipped with white. *Orange-breasted Wheat-ear.*
Inhabits the *Cape of Good Hope* ; 6 inches long.

Hottentotta. Tawny-brown ; rump with a yellowish band ; chin and lower part of the belly whitish, upper tawny ; upper tail-coverts yellowish, lower white ; tail white at the base, black in the middle and whitish at the tip. *Cape Wheat-ear.*
Inhabits

Inhabits the *Cape of Good Hope*; larger than *M. œnanthe*.
Crown and *breast* varied with deeper and paler colours;
wings brown, edged with yellowish; *middle tail-feathers*
 black with tawny tips.

Leucorhoa. Reddish-brown, beneath whitish-yellow; rump, base of
 the tail and coverts white. *Rufous Wheat-ear.*

Inhabits near the *Senegal*; 7 inches long.

Bill and *legs* black; *wing-coverts*, *quill* and *tail-feathers* brown,
 edged with rufous.

Stapazina. Ferruginous; wings brown; area of the eyes and tail
 black; outmost tail-feathers white at the side. *Rufet Wheat-ear.*

2. Pale rufous, beneath whitish; band across the eyes black;
 2 middle tail-feathers black, the lateral ones white
 each side and fringed with black towards the tip.

Inhabits *Europe*; size of the next.

Lower part of the *back* with a crescent of black spots; *chin*
 in the male black, female white; *rump*, lower part of the
belly and upper *tail-coverts* white.

Bill and *legs* black.

**Oenanthe*. Back hoary; front, line above the eyes, rump and base of
 the tail white; through the eyes a black band. *Wheat-ear.*

2. Above olive varied with white; lowest part of the neck
 spotted with grey; 2 middle tail-feathers black.
3. Above cinereous varied with grey-brown.
4. Above white; chin, wings, middle tail-feathers nearly all
 and 2 spots on the wings black.

Inhabits *Europe*, *Asia* and *Africa*: 5½ inches long; visits
England in March; frequents warrens and the edges of hills;
 feeds on insects, particularly earth-worms, and grows prodigiously
 fat; breeds in rabbits' burrows or under a stone;
 eggs light blue.

Crown, *neck* and *back* reddish-grey; *eyebrows*, *rump*, upper
tail-coverts and upper half of the *tail* white, lower half,
legs and *quill-feathers* black, the latter edged with reddish-
 brown; *body* beneath yellowish-white.

Female wants the line over the eyes.

**Rubetra*. Blackish; eyebrows white; wings with 2 white spots;
 chin and breast yellowish. *Whin-chat.*
Inhabits

Inhabits *Europe*; size of *M. rubicola*; lays 5 whitish eggs spotted with black.

Bill and *legs* black; *chin* white; *tail* white, the lower third part blackish, 2 middle feathers all blackish.

Fervida. Brown, the feathers edged with rufous; beneath pale ochre; wings with 2 white spots; tail blackish.

Sultry W.

Inhabits near the *Senegal*; size of the last.

Bill and *legs* black.

Montanella. Pale testaceous spotted with brown, beneath pale ochre; crown black-brown; eyelids and chin ochre or white; ears with a black spot; wings brown; tail ashy.

Siberian W.

Inhabits *Siberia*; larger than the whin-chat.

Feathers of the *throat* brown at the base; *quill-feathers* greyish without, secondary coverts tipped with white; *tail-feathers* longish, 2 middle and outer ones each side shorter.

Magna. Brown; crown and back paler, beneath reddish; chin whitish; quill and tail-feathers half rufous, the outmost white on the outer webs.

Dark Warbler.

Length $7\frac{1}{2}$ inches.

Philippensis. Violet-black, beneath reddish-white; wings with 3 white spots; head reddish-white; neck dirty-red; pectoral band blueish; outmost tail-feathers reddish-white without.

Philippine W.

Inhabits the *Philippine Isles*: $6\frac{1}{2}$ inches long.

Bill dirty-yellow; *legs* ferruginous.

Coromandelica. Black; lesser wing-coverts with a yellowish spot, the rest with a white one, and edged with yellow; rump and belly pale rufous; wings and tail black.

Coromandel W.

Inhabits *Coromandel*; size of a titmouse.

Iris rufous-yellow.

Perispicillata. Black; wing-coverts with a white spot; tail even; orbits naked, yellowish, wrinkled.

Spectacle W.

Inhabits

Inhabits near the river *Plata* ; size of a gold-finch.

Irids yellow ; *pupil* blue ; *tail* when extended forming an equilateral triangle.

**Rubicola*. Grey, beneath pale rufous : throat with a white band : lores black. *Stone-chat. Moor Titling.*

Inhabits hedges and dry moors in *Europe* and *Siberia* ; $4\frac{1}{2}$ inches long ; is a restless, noisy bird, and builds under a stone, or in some low shrub ; lays 5—6 blueish-green eggs with a few pale rufous spots.

Bill and *legs* blackish ; *head* and *neck* nearly black ; *body* above blackish varied with pale rufous ; *breast* and *belly* reddish-yellow ; *vent* and *rump* white ; *tail-feathers* black, the outmost on the outer edge and tip pale ferruginous ; *quill-feathers* black, edged with ferruginous, those next the body at the base and *wing-coverts* with a white spot.

Female varied with blackish and reddish.

**Atricapilla*. Testaceous, beneath cinereous : cap dusky-black. *Black-cap.*

2. Varied with black and white.

3. Above blackish : sides grey : chin white.

4. Greenish-brown : cap blackish : neck above cinereous : eyebrows white ; wings and tail blackish.

Inhabits *Europe* ; $5\frac{1}{2}$ inches long ; frequents orchards and gardens, and feeds on berries and insects ; sings very finely ; eggs pale chestnut with deeper spots.

Bill brown ; *crown* black, in the *female* chestnut ; *body* above greenish-ash, beneath grey, gradually growing white ; *temples* grey ; *quill* and *tail-feathers* brown-ash, edged with greenish-ash, the middle ones very short ; *legs* lead-colour.

Melanoccephala. Greenish-ash, beneath grey : crown black : eyes with a red band. *Black-headed W.*

Inhabits *Sardinia* ; less than the last.

Moschita. Lead-colour : cap pale rufous.

Inhabits *Sardinia* ; frequently hatches the cuckow's eggs which are laid in its nest.

Pensylvanica. Cap yellow : flanks blood-red. *Bloody-side W.*

Inhabits *Pensylvania* ; size of *M. hippolais*.

Bill, *hind-head* (of the male), band beneath the eyes and *legs* black ; *body* above olive spotted with black, beneath white ; *temples*

temples white; *wing-coverts* dusky-black with 2 white bands; *quill* and *tail-feathers* blackish, the outmost spotted with white on the inner webs.

Ruficapilla. Olive, beneath yellow; throat and breast with longitudinal rufous spots; crown rufous; wing-coverts, quill and tail-feathers brown, edged with olive.

Red-cap W.

Inhabits *Martinico*: 4 inches long.

Bill brown; 2 middle *tail-feathers* yellowish on the inner webs; *legs* grey.

Chrysopetora. Black-cinereous, beneath white; cap and spot on the wings pale yellow; chin black. *Golden-winged W.*

Inhabits *Pensylvania* in spring and autumn; size of *M. cærulea*.

Bill, *ocular streak*, *throat* and *legs* black; *temples* white; outmost *tail-feathers* with a white spot within.

Chrysoccephala. Chestnut, beneath yellowish; head and neck orange; band above and beneath the eyes brown; wing-coverts white and black; tail-feathers black, edged with yellowish. *Orange-headed W.*

Inhabits *Guiana*. *Bill* black; *legs* yellow.

Cristata. Above brownish-green, beneath greenish-grey; crest on the head blackish-brown, edged with white.

Crested W.

Inhabits *Guiana*: 4 inches long.

Bill blackish-brown; *crest* plicatile; *legs* yellowish-brown.

Multicolor. Black; bill and legs brown; breast, sides of the neck, tips of the greater wing-coverts and half the tail rufous; belly and vent white. *Rufous and black W.*

Inhabits *Cayenne*; 5 inches long. A rare bird.

Equinoctialis. Greenish-brown, beneath pale ochre; chin and breast yellowish; wings, tail and legs brown.

Equinoctial W.

Inhabits *Cayenne*; a little less than the last.

Protonota.

Protonotarius. Yellow ; rump cinereous ; vent white ; wings and tail varied with cinereous and blackish. *Protonotary W.*
Inhabits *Louisiana* ; size of the last. *Legs* black.

Semitorquata. Beneath pale ash ; crown yellowish-olive ; behind the eyes a cinereous streak ; wing-coverts and quill-feathers brown ; tail-feathers cinereous, pointed, the lateral ones white on the inner webs. *Half-collared W.*
Inhabits *Louisiana* ; $4\frac{1}{2}$ inches long.
Bill above black, beneath whitish ; *wing-coverts* edged with yellow ; primary *quill-feathers* whitish, secondary olive tipped with white ; lower part of the neck with a yellowish band ; *legs* blackish.

Fulva. Olive-brown, beneath yellow ; quill and tail-feathers brown, edged with yellow, the primary edged with pale grey. *Orange-bellied W.*
Inhabits *Louisiana*. *Bill* and *legs* brown.

Fusca. Olive-brown ; throat varied with whitish and grey ; limbs brown ; 2 outmost tail-feathers within near the tip white. *Olive-brown W.*
Inhabits *Louisiana*.
Wing-coverts and secondary *quill-feathers* edged with brownish and tipped with white, primary edged with pale grey ; lower *tail-coverts* yellow ; *tail-feathers* edged with grey, the 2 middle ones tinged with yellow, the outmost each side edged with white.

Pinguis. Grey-olive a little spotted with black ; throat mixed reddish and ash ; breast and belly white ; spot on the head and rump yellow ; quill and tail-feathers edged with grey. *Grassier W.*
Inhabits *Louisiana*.

Bill and *legs* black ; primary *quill-feathers* brown, the inner edge whitish, secondary blackish, and all tipped with grey ; *tail-feathers* black, the lateral ones within near the tip with a white spot.

Cana. Cinereous ; quill-feathers edged with whitish ; tail-feathers black, the outmost nearly all white. *Grey-throated W.*
Inhabits

Inhabits *Louisiana*.

Bill black; beneath grey; tail-feathers 4, 4 tip with white, 5, 5 half white.

Coronata. Spotted with black; cap; flanks and rump yellow.

Golden-crowned W.

Inhabits, a few days in the spring, in *Pensylvania*; size of *M. hippolais*.

Bill black; body above blue-ash (*female* rufous-brown); temples, chin and 2 bands on the belly white; ocular band (of the male), throat and upper part of the breast black; legs, wing-coverts, quill and tail-feathers blackish, the quill-feathers edged with grey; 3 outmost tail-feathers within with a white spot.

*Senegalen-
fis*. Brown; quill-feathers rufous on the inner webs; tail-feathers black tip with white. *Senegal W.*

Inhabits near the *Senegal*; 5—6 inches long.

Middle tail-feathers nearly black.

Leucomela. Black, beneath white; crown whitish; feathers of the cheeks and chin black bordered with whitish; rump white; wing-coverts, quill and middle tail-feathers blackish-brown, the lateral ones white with dusky tips. *Leucomele W.*

Inhabits rocky precipices near the *Volga*: feeds on worms, and wags its tail; lays about 10 eggs under stones or in the chinks of rocks; 6 inches long.

Bill and legs dirty-black; orbits whitish; thighs above brown-ash, beneath pale ash; neck grey-ash.

*Merulid-
nacea*. Black with a gloss of steel-blue; throat, breast and vent crimson; belly white with a longitudinal black band. *Swallow W.*

Inhabits *New Holland*. *Nat. Mis.* 114.

*Erythro-
gaster*. Black, beneath, belly, rump and tail chestnut; cap pale ash; quill-feathers with a white spot; bracelets black. *Chestnut-bellied W.*

Inhabits in summer the gravelly hollows of the *Caucasian* torrents, and migrates southerly in autumn; is very restless, and continually wagging its tail; 7 inches long.

Bill

Bill and legs black ; eyes brown.

Female cinereous ; middle of the belly rufous ; 2 middle tail feathers entirely, the lateral ones tipped with brown.

Maura. Dusky-black, beneath white ; rump and sides of the neck white ; throat bright ferruginous ; wings with an oblique yellowish-white blotch ; tail-feathers black, the lateral ones from the base half white. *Mour W.*

2. Above rufous-brown, beneath rufous-white:

Inhabits Siberia ; size of M. rubetra.

Wings dark at the base and edged with grey ; quill-feathers brown, within white.

Female and young bird obsoletely waved with brown and grey.

Superciliaria. Above greenish, beneath pale ; crown with a pale streak ; eyebrows yellow. *Yellow-browed W.*
Inhabits Russia.

Ferruginea Above cinereous, beneath whitish ; neck ferruginous. *Gilt-throat W.*
Inhabits Russia.

Cyanura. Above yellow-ash, beneath yellowish-white ; throat and eyebrows yellowish-white ; rump blueish ; vent white ; tail-feathers blueish-brown, the outer webs pale blue. *Blue-tailed W.*

Inhabits Siberia ; size of M. rubecula.

Sides of the breast near the wings yellow ; wings brown ; quill-feathers on the outer edge greenish-yellow, inner yellow.

Aurorea. Beneath tawny ; crown and neck above hoary ; front whitish ; throat dusky-black ; back and wings black, the latter with a triangular white spot ; tail-feathers tawny, the 2 middle ones black. *Daurian W.*

Inhabits Siberia as far as China : size of M. phœnicurus.

Striata. Streaked with black ; above cinereous, beneath white ; crown black ; cheeks snow-white. *Black-poll W.*

Inhabits New York : migrates.

Wings with a double white band ; 2 outmost tail-feathers with a white spot at the tip.

Incand. Head, sides of the neck and upper tail-coverts grey; quill and tail-feathers black, edged with grey; throat orange; chin and breast yellow; belly whitish-ash.

Grey-poll W.

Inhabits New York. Wing-coverts with 2 white bands.

Navifrons Blueish-grey, beneath white; crown, front, greater wing-coverts and lower of the lesser ones yellow; ocular band black, edged with white; chin and throat black.

Yellow-fronted W.

Inhabits Pennsylvania.

Quill and primary tail-feathers cinereous, the outmost of the latter spotted with white.

Blackburnia. Crown black with a yellow line in the middle; ocular band and lesser wing-coverts black, greater, vent and lateral tail-feathers white, the middle ones dusky-black; sides of the neck, chin and middle of the belly yellow.

Blackburnian W.

Inhabits New York.

Mitrata. Olive, beneath and front yellow; hind-head and collar black.

Mitred W.

2. Body above greenish-grey.

Inhabits North America: 5 inches long.

Bill black; legs brown.

Cucullata. Greenish, beneath yellow; front and cheeks black; tail wedged.

Hooded W.

Size of the last, of which it is probably only a variety.

Littorea. Above dusky-green, beneath pale ochre; quill and tail-feathers blackish.

Shore W.

Inhabits the shores of the Caspian Sea: feeds on worms.

Longirostris. Cinereous, beneath dusky-black; bill long.

Long-billed W.

Inhabits mountains near the Caspian Sea.

Chroua. Head cinereous; neck above and fore-part of the back dusky-black; throat and breast shining black; belly yellow.

Inhabits mountains of Persia.

Vol. I. — 4 H

Obscura.

Obscura. Upper feathers of the body cinereous at the base, bay in the middle and blackish at the tips: beneath cinereous: quill and tail-feathers, the outer edges bay.

Obscure W.

Inhabits the alps of *Persia*; size of the nightingale.

Bill brown; eyelids nakedish; crown and neck above brownish-ash; rump and vent varied with cinereous and white; legs blackish.

Sunamifica Reddish-ash; chin and throat black; breast and belly pale rufous, the feathers tipped with white; vent snowy; middle tail-feathers brown, lateral ones tawny.

Persian W.

Inhabits rocky mountains of *Persia*; size of *M. suecica*.

Bill and legs black; a white line from the base of the bill over the eyes and reaching as far as the nape; quill-feathers and wing-coverts at the outer edge and tips white.

Murina. Mouse-colour; head, neck and tail black; ocular streak, belly and edge of the outmost tail-feathers white.

Murine W.

Size of a sparrow. Middle of the belly black.

Spinicauda. Chestnut, beneath white; crown spotted with yellow; face and eyebrows yellow; wing-coverts rufous varied with brown, the greater and quill-feathers brown; tail wedged, the feathers daggered. *Thorn-tailed W.*

Inhabits *Terra del fuego*; 6 inches long.

Line over the eyes rufous; armpits white; 4 middle tail-feathers ferruginous, the rest chestnut tipped with white; legs brown.

Magellani- Yellow-brown waved with black and tinged with red, beneath yellow-ash with blackish lines; tail short, wedged, yellowish-brown tinged with red and streaked with black.

Magallenic W.

Inhabits *Terra del fuego*; $4\frac{1}{2}$ inches long. Legs yellow.

Citrina. Yellow, above streaked with black; cheeks, throat and breast white; tail black tipped with yellow. *Citrine W.*

Inhabits *New Zealand*; $3\frac{1}{2}$ inches long.

Bill black; tail short; legs dusky-black.

Austral

- Aurata.* Yellow ; upper part of the head and rump orange ; throat deep blue ; wings and tail brown. *Gilt-headed W.*
Inhabits *India*. *Cim. Phys.* 73. tab. 38.
Bill and *legs* pale brown ; between the *bill* and *eye* each side a small patch of white.
- Longipes.* Pale green, beneath cinereous ; beneath the eyes a white arch ; front, temples, cheeks and sides of the neck cinereous ; vent greenish. *Long-legged W.*
Inhabits *New Zealand* ; $4\frac{1}{2}$ inches long.
Bill black ; *irids* blueish-ash ; *legs* flesh-colour, above an inch long.
- Minima.* Pale brown, beneath whitish ; bill and very short tail yellowish. *Least W.*
Inhabits *New Holland* ; 3 inches long.
- Varia.* Spotted with white and black ; wings with 2 white bars ; tail bifid. *White-poll W.*
Inhabits *St. Domingo, Jamaica*, and the neighbouring isles, in summer *Pensylvania* and *New York* ; $4\frac{1}{4}$ inches long.
Bill black ; *crown* white ; *temples* black with 2 white streaks ; *wing-coverts* black ; *quill* and *tail-feathers* blackish edged with grey, the lateral ones within whitish ; *legs* greenish-brown ; *claws* yellowish.
- Capeensis.* Brown, beneath whitish ; pectoral band brown ; eyebrows white ; lateral tail-feathers obliquely white. *Cape W.*
Inhabits the *Cape of Good Hope* ; size of *M. alba*.
Bill and *legs* dusky-black ; *quill-feathers* blackish edged with grey ; *tail* black.
- Aerocephala.* Black, beneath whitish ; cap pale yellow ; ocular band black ; wings with 2 yellow bars. *Quebec W.*
Inhabits *North America* in summer ; $4\frac{1}{2}$ inches long.
Bill and *legs* brown ; between the *bill* and *eyes* a large triangular black spot, beneath the eyes a white one ; *body* above black, the feathers edged with yellowish-green ; *quill* and *tail-feathers* dusky-black edged with olive and whitish, the 3 outmost within from the middle to the tip pale ochre.
- Dominica.* Cinereous, beneath white ; before the eyes a pale yellow spot, behind them a white and beneath them a black one. *Jamaica W.*
Inhabits

Inhabits *Jamaica* and *St. Domingo* : $4\frac{1}{2}$ inches long.

Cincla. Pale ash, beneath white; crown and band on the belly pale yellow; breast spotted with brown. *Belted W.*

Inhabits *Canada* ; 5 inches long.

Bill black; *eyebrows* white; *orbits* and bands on the wings white; *quill-feathers* brown edged with grey; upper tail-coverts yellow; *tail-feathers* blackish edged with cinereous the outmost within white near the tip; *legs* brown.

Madagascariensis. Greenish, beneath whitish; chin and vent yellow; eyelids white. *White-eyed W.*

Inhabits *Madagascar* and the *Isle of France* ; $3\frac{1}{2}$ inches long.

Bill grey-brown; *quill-feathers* brownish edged with olive; middle *tail-feathers* olive, lateral ones brown edged with olive; *legs* cinereous.

Borbonica. Grey-brown, beneath dull yellowish-grey; quill and tail-feathers brown edged with grey-brown. *Bourbon W.*

Inhabits *Madagascar* and *Bourbon* ; size of the last.

Mauritiana. Blue-grey, beneath white; quill and tail-feathers black edged with white. *Maurice W.*

Inhabits the *Isle of France* : $3\frac{1}{4}$ inches long.

Bill blackish; *legs* blueish.

Livida. Blue-grey; vent white; bill and legs lead-colour; quill-feathers blackish edged with white; tail-feathers black, the 2 outmost white. *Madagascar W.*

Inhabits *Madagascar* ; 4 inches long.

Tail above 1 inch long.

Flavescens. Brown, beneath yellowish; temples whitish; equal tail and quill-feathers edged with rufous-brown.

Citron-bellied W.

Inhabits *Senegal* ; $4\frac{1}{2}$ inches long. *Bill* and *legs* dusky.

Rufigaster. Olive-brown, beneath yellowish-rufous; quill and tail-feathers brown. *Rufous-bellied W.*

Inhabits *Senegal* ; $3\frac{1}{2}$ inches long: much resembles the last, but the tail is shorter; perhaps is only a variety.

Unica.

- Undata.* Black, the feathers edged with rufous; beneath white; rump rufous; tail wedged; quill and tail-feathers brown edged with rufous white. *Undated W.*
Inhabits near the *Senegal*; 4 inches long.
Bill black; *legs* dusky-black.
- Fusca.* Brown, beneath grey; tail long, equal. *Dusky W.*
Inhabits near the *Senegal*; 6 inches long.
Bill black; *legs* yellow.
- Subflava.* Rufous-brown, beneath grey; rump pale; sides of the body pale rufous; tail wedged. *Flaxen W.*
2. Above brown, beneath grey; rump yellowish.
Inhabits *Senegal*: 4 $\frac{1}{2}$ inches long.
Bill dusky; *legs* yellow.
- Aurocapilla.* Olive, beneath white; crown golden; eyebrows black; breast spotted with black. *Golden-crowned W.*
Inhabits *North America*, and in winter migrates southerly; 5 $\frac{1}{2}$ inches long; eggs white spotted with brown.
Bill brown, flesh-colour at the base; temples white; *legs* yellowish-brown.
- Petechiæ.* Olive, beneath yellow dotted with red; cap red. *Red-headed W.*
Inhabits *Pensylvania*: size of *M. atricapilla*.
Bill black; quill and tail-feathers dusky edged with yellow; *legs* dusky-black.
- Albicollis.* Olive, beneath yellowish; throat and breast dull pale ochre streaked with red; quill and tail-feathers brown edged with greenish-yellow, lateral ones within yellowish. *St. Domingo W.*
Inhabits *St. Domingo*; near 5 inches long.
Bill horn-colour; temples yellowish; *legs* grey-brown.
Female, neck above greenish-ash.
- Ludovicianæ.* Olive; throat and breast yellow spotted with red; belly pale ochre: 2 bands on the wings and 2 outmost tail-feathers within near the tip white. *Louisiane W.*
Inhabits *Louisiana* and *St. Domingo*; 4 $\frac{1}{2}$ inches long.
Bill brown, beneath grey; quill-feathers blackish-brown edged with blue-grey; *legs* cinereous. *Female* breast not spotted.

Chloro-

Chloroleuca. Olive, beneath pale ochre: head cinereous varied with olive: greater wing-coverts and tail-feathers brown edged with yellowish-green. *Green and white W.*
 Inhabits *St. Domingo*: 4½ inches long.
 Bill horn-colour; tail slightly forked, the lateral feathers varied with yellow; legs grey-brown.

Auricollis. Olive, beneath orange: belly yellowish: vent whitish: greater wing-coverts and middle tail-feathers cinereous, the lateral ones within white, without and at the tip black. *Orange-throated W.*
 Inhabits *Canada*; above 5 inches long.
 Upper mandible brown, lower whitish; quill-feathers brown edged with cinereous; legs grey.

Maculosa. Olive spotted with black: head and quill-feathers cinereous: belly, vent and 2 bands on the wings white: rump yellow: breast yellow spotted with black. *Yellow-rumped W.*
 Inhabits *Pensylvania*: size of *M. hippolais*.
 Bill and legs brown; quill-feathers edged with white; middle tail-feathers black, lateral ones black with a white spot in the middle within.

Fuscescens. Brownish, beneath varied with blackish and rufous-grey: bill, chin and ocular band brown. *Brown-throated W.*
 Inhabits *Jamaica*: 5 inches long.

Tigrina. Brown, the feathers edged with olive: beneath and rump yellow: lower part of the belly dull yellowish-white: behind the eyes a rufous blotch: quill and tail-feathers edged with olive. *Spotted-yellow W.*

2. Paler, beneath whitish: breast spotted with brown; wing-coverts without the white band.

Inhabits *Canada*, 2) *St. Domingo*; 4½ inches long.
 Bill dusky-black; neck and breast with blackish spots; greater wing-coverts with a white band; tail slightly forked, the 3 outmost feathers near the tip within white; legs brown.

Pinus. Olive, beneath yellow: lores black; wings blue with 2 white bands. *Pine W.*
 Inhabits *Carolina*, in summer; 4½ inches long.
 Tail slightly forked. Female wholly brown.

Virens.

- Virens.* Green-olive, beneath white: cheeks, sides of the neck and breast yellow: neck beneath white: wings with 2 white bands. *Green W.*
 Inhabits *Pensylvania*; size of *M. hippolais*.
Bill black; 3 outer *tail-feathers* within spotted with white; *flanks* varied with black and white; *legs* brown.
- Dumetorum.* Ashy-brown: head blueish: chin and breast white. *White-breasted W.*
 Inhabits *Germany* and *Russia*.
- Nigrirostris.* Olive-brown: lores and chin rufous-yellow: breast rufous spotted with blackish: belly white: wing-coverts tip with reddish-white: quill-feathers edged with yellowish: tail-feathers pointed, the outmost white. *Black-jawed W.*
Length 7 inches; *bill* black, pale at the base with a blackish streak each side the mandible; *legs* brownish-yellow.
- Lutescens.* Rusty-brown, beneath reddish-white: front and chin buff; ears with a red spot: breast spotted with black. *Buff-faced W.*
Length 6 inches; *bill* dusky-black; *legs* brownish.
- Borealis.* Green, beneath yellow: chin and temples ferruginous: tail rounded, the lateral feathers tip with white. *Rusty-headed W.*
 Inhabits *Kamtschatka*: 5 inches long.
Bill pale; *legs* dusky-black.
- Kamtschatkensis.* Brown, beneath paler: middle of the belly white: front, cheeks and chin pale ferruginous. *Kamtschatka W.*
 Inhabits *Kamtschatka*. *Bill* long, slender.
- Awatcha.* Brown: chin and breast white spotted with black: middle of the belly and lores white: primary quill-feathers edged with white: tail-feathers orange at the base.
 Inhabits *Kamtschatka*.
- Canescens.* Hoary-brown, beneath white: head black: front streaked with white: breast and vent streaked with black: spot on the wings and edge of the tail-feathers at the base tawny. *Van Diemen's W.*
 Inhabits

Inhabits *New Holland*: $6\frac{1}{2}$ inches long.

Tail slightly wedged, shorter than the body; 2 outer tail-feathers with a white spot at the tip of the inner webs.

Æquinoctialis. Brown-testaceous, beneath white; rump pale; tail-feathers with obsolete bands. *Æquinoctial W.*

Inhabits *Nativity Island*: size of a sparrow.

Nigricollis. Subcrested, above pale grey, beneath flesh-colour; cap, neck above, quill and tail-feathers black.

Black-necked W.

Inhabits *India*. Bill and legs yellow.

Plumbea. Lead-colour, beneath cinereous; quill and tail-feathers dusky. *Plumbeous W.*

Size very small.

Cambaiensis. Blackish-brown, beneath fine black; top of the belly and vent rusty-rufous; wing-coverts white. *Cambay W.*

Inhabits *India*: 6 inches long.

Bill black; tail 3 inches long; legs brown.

Guzurata. Greenish, beneath white; crown chestnut; quill-feathers and tail brown. *Guzurat W.*

Inhabits *India*: $4\frac{1}{2}$ inches long.

Bill and legs pale brown; quill and tail-feathers edged with green.

Asiatica. Brown, beneath yellowish; head and neck black; lores and chin white; tail long. *Asiatic W.*

2. Brown; front, eyebrows and body beneath white; lateral tail-feathers half white.

Inhabits *Guzurat*; size of a nightingale.

Bill blackish with a few small bristles at the base; breast with a few white spots; tail $3\frac{1}{2}$ inches long, wedged, the outermost feathers pale from the middle to the tip.

Caprata. Black; rump, vent and spot on the wing-coverts white. *Luzonian W.*

Inhabits *Luzonia*; $4\frac{1}{2}$ inches long.

Bill blackish; legs black-brown

Female

Female without the spot on the wings; *body* above brown, beneath rufous-brown; *chin* whitish; *rump* pale rufous; *tail* brown.

2. Head, neck and body above black, beneath whitish-rufous; wings with a white band.

Inhabits *China*. *Bill* and *legs* red.

**Phan-
curus*.

Throat black; belly and tail rufous; head and back hoary; front white. *Redstart.*

2. Breast spotted with rufous.

3. Body cinereous.

Inhabits *Europe*: $5\frac{1}{4}$ inches long; appears in *England* in the spring; builds in hollow trees and holes of walls, and lays 4—5 blue eggs; wags its tail horizontally.

Bill, *cheeks* and *legs* black; *belly* white; *rump*, *breast* and lateral *tail-feathers* rufous, the middle ones brown; *wings* brown.

Female, crown and back grey-ash; *chin* white.

Tithys.

Quill-feathers blackish; tail-feathers rufous, the 2 middle ones black with a pale rufous outer web.

Inhabits *Italy*.

Male above pale ash; *throat* and *breast* black; *belly* between the thighs whitish, elsewhere varied with black and white.

*Gibralta-
riensis*.

Hoary; front, temples and chin black; hind-head and lower part of the belly white; rump and tail orange; 2 middle tail-feathers brown. *Grey Redstart.*

Inhabits round *Gibraltar*; size of *M. rubecula*.

Bill and *legs* brown; *quill-feathers* grey-brown, edged with white; lateral *tail-feathers* except the outmost tip with brown.

Erythæa.

Back and quill-feathers cinereous; belly and tail-feathers rufous, the 2 outmost cinereous. *Red-tail W.*

Inhabits *Europe*; something less than the redstart; feeds on worms, and wags its tail; eggs white varied with grey.

Bill blackish; *body* above grey, beneath grey-white varied with rufous.

Male, horse-shoe mark on the *throat* and spot between the *bill* and *eyes* brown; 2 middle *tail-feathers* brown.

Cerulea. Above blue, beneath white; wings and tail black.

Cærulean W.

2. Head black; quill and 6 middle tail-feathers black, the rest white.

Inhabits *Pennsylvania*; size of *M. hippolais*; builds a cylindrical nest, open at the top, in the forked branch of a tree.

Bill black, lower mandible reddish at the base; a black line (in the male) from the bill to the hind-head; quill-feathers white on the inner edge; outmost tail-feathers white, the rest blue-ash, 5, 5 tip with white.

Cyana. Fine blue, beneath snowy; from the bill to the wings a black streak.

Inhabits *Dauria*; size of *M. calliope*.

• *Arundinacea.* Above olive-brown, beneath whitish; lores and orbits whitish-brown; band in the middle of the wings beneath tawny-yellow; tail brown, slightly wedged; soles greenish-yellow. *Reed Wren.*

Inhabits reedy places in *England*: $7\frac{1}{2}$ inches long; builds its nest near the ground with 3 or 4 reeds for its supporters, and lays 4 whitish eggs spotted with olive.

Upper mandible horn-colour, lower flesh-colour; mouth orange; irids brown; chin white; legs pale olive.

Sibilla. Blackish, beneath white; breast rufous; wings with a white spot. *Sybil W.*

Inhabits *Madagascar*; size of *M. rubicola*; sings faintly.

Feathers of the back and edges of the wing-coverts reddish.

Spectata. Green-brown, beneath and rump rufous-grey; 2 middle tail-feathers blackish, lateral ones obliquely half tawny-brown.

2. Chin white; breast rufous.

Inhabits the *Cape of Good Hope*: 6 inches long.

• *Rubecola.* Grey; throat and breast ferruginous. *Robin Red-breast.*

2. Chin white; wing-coverts varied with white, black and rufous; quill and tail-feathers black, edged with rufous.

3. Entirely white.

Inhabits

Inhabits *Europe* ; eggs whitish with reddish spots.

Bill and *legs* dusky ; *tail-feathers* terminating in an acute angle ; *belly* white ; edges of the *quill-feathers* inclining to yellow.

Troglodytes. Grey : eyebrows white : wings waved with black and cinereous. *Wren.*

Inhabits *Europe* and *Asia* : $3\frac{1}{2}$ —5 inches long ; carries its tail erect, and sings through the whole year ; builds an oval, deep nest with a small hole in the middle ; lays 10—18 white eggs spotted with reddish.

Bill dark-brown ; *head* and *body* above deep reddish-brown ; *quill-feathers* alternately barred with black and red ; *throat* yellowish-white ; *belly* and *sides* crossed with narrow, dusky and pale reddish-brown lines ; *tail* with dusky bars ; *legs* brownish.

Patensis. Above varied with rufous and black, beneath white : quill and tail-feathers barred.

Inhabits *Buenos Ayres* ; size of the last.

Body beneath from the chin white ; *flanks* pale ferruginous.

Adelphi. Rufous-brown : eyebrows, cheeks and body beneath yellowish : quill and tail-feathers barred with black and rufous.

Over the eyes a band reaching to the sides of the neck ; cheeks waved with brown.

Arva. Brown, beneath paler : back, wings and tail with blackish bars. *Brown W.*

Inhabits *Surinam* ; $4\frac{1}{2}$ inches long ; sings well.

Bill and *legs* yellowish-brown.

Stendula. Greenish-ash : crown with a ruby line : belly and wings beneath yellowish. *Ruby-crowned Wren.*

Inhabits *North America* : $4\frac{1}{2}$ inches long.

Wings with 2 yellowish bars ; *quill* and *tail-feathers* brown with paler edges ; *legs* brown.

Female without the ruby vertical line. Varies in having a scarlet lunule on the nape.

Regulus. Greenish : secondary quill-feathers yellow on the outer edge and white in the middle ; crown orange.

Golden-crested Wren.

Inhabits

Inhabits the whole known world ; is the least of British birds, and sings melodiously ; 3 $\frac{1}{2}$ inches long.

Bill black ; *crest* orange (female yellow), each side edged with black ; *body* above yellowish-green, beneath reddish-white ; *wing-coverts* dark-brown with 2 transverse white bars ; *legs* yellow.

Elata. Crested, greenish, beneath whitish-ash : hind-head and vent pale yellow : wing-coverts at the edge and lateral tail-feathers at the tip white.

Inhabits *Cayenne* : something less than the last.

Bill short ; long feathers of the *crest* yellow on the hind-part, elsewhere with the *head* brown ; *wing-coverts* with 2 pale bars ; *quill* and *tail-feathers* black, 2 middle ones entirely, the rest white at the tip.

•*Trochilus* Dusky-green, beneath yellowish-white : wings and tail brown, edged with green : eyebrows yellow.

Yellow Wren.

2. Beneath yellow : throat and breast yellowish-white : wings beneath brimstone-colour.

3. Above varied with blackish, beneath rufous-white : chin and eyebrows white.

Inhabits *Europe* and *America* : 4 $\frac{1}{2}$ inches long ; frequents moist woods, and creeps up and down trees in search of insects ; builds in hollows in the sides of ditches, making a roundish nest, with the entrance at the top ; eggs white with crowded ferruginous spots.

•*Sylvicola.* Greenish, beneath yellowish : eyebrows yellow : belly and vent snowy.

Wood Wren.

Inhabits *Europe*, particularly the oak woods of *Carmarthenshire* : 5 $\frac{1}{4}$ inches long ; builds on the ground a roundish nest with an entrance near the top ; eggs white, sprinkled with ferruginous spots. *Linn. Transf.* 4. 35.

Bill dusky ; *irids* hazel ; upper part of the *head*, *back*, *scapulars* and upper *tail-coverts* lively yellow-green ; *cheeks* and *throat* yellow ; lower part of the *breast*, *belly* and under *tail-coverts* pure white ; *quill-feathers* dusky, edged with yellow-green ; *tail* a little forked, and except the outmost edged with yellow-green ; *legs* yellowish-brown.

A. A.

Æstiva. Olive-green, beneath yellow: neck beneath and breast with reddish spots: lateral tail-feathers within yellow.
Yellow-poll W.

2. Body above brown.

Inhabits *Guiana*, and *Canada* in summer; $4\frac{1}{2}$ inches long.
Bill and legs black; irids blue.

Carolinensis. Olive-green, beneath yellowish: quill and tail-feathers brown, the lateral ones edged with yellow.
Carolina Yellow-poll.

Inhabits *Hudson's Bay*: size of the last.

Sutoria. Entirely yellow and very small. *Taylor W.*

Inhabits *India*; 3 inches long; constructs a curious nest by sewing the edges of one or more leaves together, so as to form a conical repository for its eggs and young, which is afterwards lined with feathers and vegetable down; this singular work is performed by using its bill in the place of a needle, and some vegetable fibre for thread. A beautiful representation may be seen in *Shaw's Naturalist's Miscellany*, No. 79, plate 237. The eggs are white, and are said to be not larger than what are usually called ants' eggs.

Cæfra. Olive; chin and tail ferruginous: eyebrows white.
Caffrarian W.

Inhabits the *Cape of Good Hope*; size of *M. alba*.

Rump ferruginous; breast and belly whitish; quill-feathers brown; tail-feathers even, the lateral ones at the tip, middle ones entirely brown; lores black.

ularis. Above ferruginous, beneath white; chin, wings and tail black.
Inhabits *South America*.

lavicaula. Olive, beneath white: crown and rump cinereous: area of the wings and lateral tail-feathers yellow tipped with brown, the middle ones entirely brown.
Yellow-tail W.

Inhabits *America* and migrates.

checania. Above blackish, beneath ferruginous: head dark-brown: nape whitish: collar and oblong spot on the wings white: back black.
Inhabits *Siberia*.

Melanopa.

Melanops. Blueish-ash, beneath yellow; lores and throat black; eye-brows and 3 lateral tail-feathers each side white; the outmost black on the exterior edge.

Inhabits *Danuria*; less than *M. flava*.

A white line from the gape through the neck; tail even.

Hudsonica. Rusty-brown; beneath whitish; neck beneath with dusky stripes; outmost tail-feather white, second white edged within with black, third white on the disk.

Inhabits *Hudson's Bay*: 6 inches long.

Bill and legs yellowish-brown; body above brown, the feathers edged with ferruginous; chin and throat pale ferruginous; tail blackish, 3 inches long.

**Boarula*. Cinereous; beneath yellow; first tail-feather entirely, second on the inner side white. *Grey Wagtail.*

Inhabits *Europe*; $7\frac{1}{2}$ inches long; is much in motion, seldom perches, frequents waters, perpetually flirts the tail, and makes its nest on the ground; eggs reddish-white spotted with yellow.

Bill and legs brown; chin and throat (of the male) black; wing-coverts brown, edged with ash; quill-feathers brown, the secondaries white at the base; middle tail-feathers black, edged with greenish.

2. Olive-brown, beneath yellow; lower part of the neck grey; first tail-feather entirely, second and third on the inner side and tip white.

Inhabits *Java*; 7 inches long.

87. PIPRA. Bill shorter than the head, strong, hard, nearly triangular at the base, and slightly incurved at the tip: nostrils naked; feet gressorial: tail short. *Manakin.*

Rupicola. Crest erect, edged with purple; body saffron; tail-coverts truncate. *Rock M.*

Inhabits rocky parts of *South America*; size of a small pigeon; 10—12 inches long; is shy, but may be tamed if taken young; feeds on small wild fruits, and builds in the clefts of the most remote rocks; eggs 2, white.

Bill yellowish; *crest* consisting of a double series of feathers; *quill-feathers* partly white, partly brown; *tail-feathers* 12, upper half of the 10 middle ones orange, lower brown, outer ones brown, the upper half of the inner web orange; *legs* yellow.

Female and young bird brown; lower *wing-coverts* rufous-orange.

Peruviana Body saffron-red; greater wing-coverts cinereous; quill and tail-feathers black, the coverts of the latter not truncate. *Peruvian M.*

Inhabits *Peru*: size of the last; *tail* much longer.

Bill and *legs* yellow; secondary *quill-feathers* and *rump* red.

Pareola. Crest blood-red; body black; back blue. *Blue-backed M.*

Inhabits *South America*: $4\frac{1}{2}$ inches long.

Crest plicatile; lesser *wing-coverts* blue; *legs* red; *irids* blue.

Female olive; young bird green.

Superba. Deep black; middle feathers of the crown longish, flame-colour; between the wings a pale blue lunular blotch; primary quill-feathers brownish.

Superb M.

In size larger than *P. aureola*.

Bill black; *legs* pale yellow; feathers of the front covering the nostrils; hairs at the nostrils, angles of the mouth and chin thickset; primary *quill-feathers* pointed; *tail* short, of 10 feathers.

Cristata. Crest pale yellow; body purple. *Purple M.*
Inhabits *Brazil* and *New Spain*; $3\frac{1}{2}$ inches long.
Bill and *tail* red.

Piciciti. Cinereous; head and neck black; round the eyes a whitish spot which ends in a point at the breast. *Mexican M.*

Inhabits *Mexico*: of very small size.

Rubetra. Crest pale yellow; body testaceous; quill and tail-feathers blue. *Yellow M.*

Inhabits *Brazil* and *Cayenne*: $4\frac{1}{2}$ inches long.

Bill yellow; *chin* brown; *neck* with a golden collar.

Tarquata. Black ; head scarlet ; quill-feathers and coverts blue.

Collared M.

Inhabits *Brazil* ; $3\frac{1}{4}$ inches long,
Bill and legs yellowish.

Miccatotoll Black with a few whitish feathers ; belly pale ; wings and tail beneath cinereous.

New Spain M.

Inhabits *New Spain* ; rather small.

Punctata. Greyish-brown waved with dusky ; top of the head and wings black speckled with white ; tail-coverts red.

Speckled M.

Inhabits *New Holland*. *Nat. Miscel.* 111.

Crisea. Grey, beneath yellow ; hind-head crested ; greater wing-coverts red ; quill-feathers and tail grey-ash ; front with a yellow spot.

Grey M.

Inhabits *America* ; $3\frac{1}{2}$ inches long. Bill yellow.

Albifrons. Crest white ; body testaceous ; back black.

White-faced M.

2. Body rusty-testaceous ; crest longer, unequal.

Inhabits *South America* ; 5—6 inches long.

Bill black ; crest plicatile, composed of pointed, decumbent feathers, and with the face and chin surrounded by a black line ; legs reddish-yellow.

Erythrocephala. Black ; head and armpits tawny.

Gold-headed M.

2. Black ; head and bracelets red.

Inhabits *South America* ; $3\frac{1}{4}$ inches long.

Bill yellow ; body purplish-black ; legs flesh-colour.

Aureola. Black ; head and breast scarlet ; quill-feathers with a white spot on the fore-part.

Red and black M.

2. Head, lower part of the neck, breast, belly and edges of the wings orange ; quill-feathers with a white spot within.

Inhabits *Guiana* ; $3\frac{1}{4}$ inches long.

Bill black ; legs and claws red, 2) brown.

Female olive ; crown hoary-red, beneath olive-yellow ; young bird olive with red spots on the head, throat, breast and belly.

Cauda

undata. Blue; crown scarlet; wings black; 2 middle tail-feathers long, pointed. *Long-tailed M.*
 Inhabits *South America*. *Nat. Miscel.* 153.
 Sides of the neck and tail with a green lustre.

leucoccephala. Black; head white. *White-headed M.*
 Inhabits *Surinam*; size of a warbler.

leucococilla. Dusky-black; cap white. *White-capped M.*
 2. Dusky-black; cap white; bracelets red.
 Inhabits reedy places of *South America*; $3\frac{1}{2}$ inches long.
 Bill grey-brown; body with a steel-blue gloss; legs reddish.

culturalis. Black; throat white. *White-throated M.*
 Inhabits the hottest parts of *America*; $3\frac{1}{2}$ inches long.
 Upper mandible blackish, lower white; some of the middle quill-feathers white on the inner webs; legs and claws red.

serena. Black; front white; rump blue; belly tawny. *White-fronted M.*
 Inhabits *Cayenne* and *Guiana*; $3\frac{1}{2}$ inches long.
 Bill and legs black; feathers of the head black at the base, the rest blue, of the front tip with white; vent orange.

lanacus. Black, beneath white; spot on the wings and neck above white. *Black-capped M.*
 2. Spot on the wings o.
 Inhabits the woods of *Guiana*; $4\frac{1}{2}$ inches long; is gregarious and restless, perpetually hopping about.
 Bill black; legs yellow.

minuta. Grey; head black speckled with white. *Little M.*
 Inhabits *India*: size of a small wren.
 Breast yellowish with transverse black lines; tail-feathers brown with pale edges.
 Male with flesh-colour lines on the front and white blotches on the hind-head.

striata. Beneath yellowish; upper part of the head and nape black, the feathers with a longitudinal white streak; quill-feathers black, the third very short. *Striped-headed M.*
 4 K 2
 Inhabits

Inhabits *South America* : 4½ inches long.

Bill brown with a yellow spot between it and the eyes ; *neck* above and *back* brownish-ash ; *wing-coverts* brownish, some of them tipped with yellow ; *spurious wings* tipped with white ; *tail* black, short, the lateral feathers tipped with white ; *legs* dusky-black.

Navia. Brown, beneath tawny ; chin and throat black ; breast bifid band on the wings, and tips of the tail-feathers white. Spotted M.

Inhabits *South America* ; 4 inches long.

Bill blackish ; lower part of the *belly* and *vent* orange ; breast spotted with black ; *legs* brownish.

Leucotis. Varied with olive and rufous, beneath rufous ; belly grey ; crown brown ; temples and chin black ; each side the neck a tuft of longer snowy feathers. White-eared M.

Inhabits *South America* : 4¼ inches long. *Legs* brown.

Female, chin and throat white ; from the base of the *bill*, beneath the eyes and reaching down each side the neck a green streak.

Atricapilla Pale ash, beneath grey-white ; bill, crown, greater wing-coverts and quill-feathers black, the latter edged with grey ; front and cheeks grey-white. Black-crowned M.

Inhabits *Guiana* : 6 inches long.

Tail longish, slightly wedged ; *legs* pale grey.

Papuenfis. Greenish-black, beneath whitish ; breast with an oblong orange blotch ; middle tail-feathers very short. Papuan M.

Inhabits *New Guinea* : 3½ inches long.

Bill black ; *legs* livid.

Hamor-rhina. Deep black, beneath white ; vent with a red spot. Crimson-vented M.

Length 3¼ inches ; *bill* pale ; lower *tail-coverts* nearly as long as the tail ; *legs* brown.

Nigricollis.

atricollis. Blueish-black ; throat and vent black ; belly white.
Black-throated M.
 Length 4 inches. Bill and legs brown.

capensis. Dusky-black, beneath pale yellowish-orange ; edge of the quill-feathers pale, of the wings pale yellowish-orange.
Orange-bellied M.
 Inhabits the *Cape of Good Hope* ; 4 inches long.
 Bill black ; legs dusky-black.

cinerea. Cinereous ; belly whitish.
Cinereous M.
 Length 3½ inches.

musca. Black, beneath orange ; front and rump yellow : crown and nape blue ; chin and throat black. *Tuneful M.*
 Inhabits *St. Domingo* ; 4 inches long ; is very shy, and easily eludes the vigilance of such as attempt to take it ; its note is musical and forms a complete octave, one note succeeding another.
 Bill and legs black.

88. PARUS. Bill very entire, narrow, sub-compressed, strong, hard, pointed, and covered at the base with bristles : tongue truncate, bristly at the end : toes divided to the origin, the hind-one large and strong. *Titmouse.*

This is a very fertile tribe, laying 18—20 eggs at one hatch ; they feed on seeds, fruits and insects, and a few on flesh : most of them are fond of the brains of other birds, which they get at by cleaving the skull of such as they find dead ; they are restless, bold, and cruel to birds less than themselves, and will attack such as are three times their own size.

Bicolor. Head crested, on the fore-part black ; body cinereous ; beneath pale whitish-rufous. *Toupet T.*
 Inhabits woods of *North America* : 6 inches long.
 Bill black ; crest pointed, grey ; orbits pale rufous ; quill and tail-feathers edged with grey-rufous ; tail slightly forked ; legs lead-colour.
 Female, belly white.

Cristatus.

- Cristatus.* Head crested ; collar black ; belly white. *Crested T.*
 Inhabits *Europe*, chiefly in fir woods ; $4\frac{1}{4}$ inches long ; is solitary and not easily tamed.
Bill blackish ; *front* and *cheeks* white ; *crest* plicatile, pointed, black, edged with white ; *chin*, *throat* and spot on the *ear* black ; rest of the *body* reddish-grey ; *legs* lead-colour.
- *Majer.* Head black ; temples white ; nape yellow. *Great T.*
 Inhabits *Europe*, *Asia* and *Africa* : $5\frac{1}{2}$ inches long ; frequents gardens, but builds in woods, when it lays about 10 eggs ; does much mischief in gardens and orchards by picking off the tender buds of trees ; eggs white with rusty spots.
Bill, *chin* and *tail* black ; *back* and *wings* olive ; *rump* blue-grey ; *belly* greenish-yellow, divided in the middle by a band of black extending to the vent ; *quill-feathers* dusky, edged partly with blue, partly with white ; exterior sides of the outmost *tail-feathers* white, of the others blueish, inner sides dusky ; *legs* lead-colour.
- 2. Olive-brown, beneath dirty-yellowish ; head black ; temples cinereous ; bill forked. *Cross-billed T.*
 This bird was once killed near *Feversham* in *Kent*,
Bill crossed as in the *Loxia curvirostra*.
- Ignotus.* Yellow-green ; breast yellow spotted with rufous ; belly blue ; vent yellowish. *Stræmian T.*
 Inhabits *Norway*, and much resembles the last.
Bill black, beneath yellow ; *tail* forked, the middle feathers greenish, the outmost white without ; *legs* black ; *back-claw* 3 times as long as the rest.
- Cyanus.* Pale blue, beneath snowy ; rump and crown whitish-hoary ; neck above white with a broad blue band ; shoulders and tail-coverts blue. *Azure T.*
 Inhabits *Russia* and *Siberia* ; above 5 inches long.
Bill and *legs* blackish ; from the *bill* across the *eyes* a black band ; *wings* varied with white and blue ; *coverts* with a white band ; *tail* long, slightly wedged, above blue, beneath white, the 4 upper feathers blue tipped with white, and with black shafts ; *tongue* cartilagenous bilobate, each lobe fringed with 3—5 bristles.
- Americanus.* Blueish ; temples, breast and back yellowish ; flanks purplish. *Creeping T.*
 Inhabits

Inhabits *Carolina* and *Canada* : 4½ inches long ; continually runs up and down trees in search after insects.

Upper mandible brown, lower yellow ; above and beneath the eyes a white spot ; wings with a double white bar ; collar half round the neck black ; belly white ; quill-feathers blackish, within white, edged with blueish-ash ; tail blackish, middle feathers entirely, lateral ones edged with blue-ash, the outmost within with a black spot ; legs yellowish. Female varied with black and brown.

**Caruleus*. Quill-feathers blueish, the primaries white on the outer edge ; front white ; crown blue. *Blue T.*

Inhabits *Europe* : 4½ inches long ; frequents gardens, and does much injury to fruit-trees by bruising the young buds in search of insects ; breeds in holes of walls, and lays 12—14 small white eggs.

Bill blackish ; line from the bill to the eyes and one surrounding the temples black ; crown black ; back yellowish-green ; wing-coverts blue ; quill-feathers black with dusky edges ; tail blue, the middle feathers longer ; body beneath whitish-yellow ; legs and claws black.

**Atricapillus*. Cap and chin black ; body cinereous, beneath white.

Canada T.

Inhabits *North America* : 4½ inches long ; feeds on worms and insects, and is very patient of cold.

Upper tail-coverts whitish ; greater wing-coverts brown, edged with grey ; quill-feathers brown, the outer edge grey, the inner white ; middle tail-feathers cinereous, lateral ones brown, edged with grey ; legs and claws blackish.

**Ater*. Head black ; back cinereous ; hind-head and breast white.

Colemouse.

Inhabits woods of *Europe* and *North America* : 4 inches long.

Bill and chin black ; each side from the bill to the neck beneath the eyes a broad black stripe ; belly and vent reddish-white ; wing-coverts grey tipped with white ; quill and tail-feathers brownish-ash, edged with grey ; legs and claws lead-colour.

**Palustris*. Head black ; back cinereous ; temples white. *Marsh T.*

2. Wings without the white bands.

3. Body beneath and band on the hind-head white.

4. Crown black ; nape yellowish.

Inhabits

Inhabits *Europe*, 2) *Louisiana*: something larger than the last.
Body above grey, beneath white; *chin* with a black spot;
wings with 2 white bars.

Virginia-nus. Rump yellow; body cinereous. *Virginian T.*
 Inhabits *Virginia* and *Carolina*; 5 inches long.
Bill blackish; *body* above olive-brown, beneath grey; *legs*
 and *claws* brown.

Peregrinus Rump scarlet; body cinereous, beneath white. *Crimson-rumped T.*
 Size of *P. major*.
Quill feathers brown; *tail-feathers* black, except the 4 middle ones which are obliquely yellow on the hind-part.

Griseus. Grey; crown red. *Crimson-crowned T.*
 Inhabits *Greenland*. See *Fringilla flammea*.

Afer. Blackish; cheeks, nape and belly white; neck beneath and breast black. *Black-breasted T.*
 Inhabits the *Cape of Good Hope*; 6 inches long.
Bill, *legs* and *tail* black; a white streak on the sides of the neck: outmost *tail-feather* without and second at the tip white.

**Caudatus* Crown white; tail longer than the body. *Long-tailed T.*
 Inhabits *Europe* and *Siberia*; 5½ inches long; is very destructive to the trees in gardens; forms an oval nest with a hole near the upper end for admission; eggs 10—17, grey tinged with reddish.
Bill and *legs* black; *irids* hazel; the white on the head and down the back surrounded with a broad black streak; *temples* and *body* beneath white; sides of the back, rump, *belly* and *vent* pale rosy; greater *wing-coverts* black, lesser brown, edged with rosy; 4 middle *tail-feathers* black, 4, 4 edged with grey, the rest varied with black and white.

Capensis. Grey-ash; quill-feathers black, edged with white; tail above black, beneath white. *Cape T.*
 Inhabits the *Cape of Good Hope*; builds a pendulous nest shaped like a retort, with a long, narrow neck and an opening on one side, which is attached to the branch of some tree or shrub.
Bill and *legs* black.

* *Biarmicus.*

* *Biarmicus*. Rufous; crown hoary; tail longer than the body; head bearded; vent black. *Bearded T.*

Inhabits *Europe*, in marshy places; $6\frac{1}{4}$ inches long; suspends its nest between 3 reeds; eggs reddish-white with small red spots.

Bill pale orange; *irids* yellow; *legs* black; *tail* wedged; *whiskers* composed of long black feathers; 3 outer *tail-feathers* black at the base and whitish at the tips; middle of the *breast* flesh-coloured; *sides* and *thighs* pale orange.

Sinensis. Rusty-brown; head and neck paler; quill-feathers and long tail brown edged with black. *Chinese T.*

Inhabits *China*; $3\frac{1}{4}$ inches long. *Bill* black; *legs* red.

Malabari-cus. Grey; chin, wings and middle tail-feathers black; body beneath, rump, spot on the wings and base of the lateral tail-feathers tawny. *Malabar T.*

Inhabits *Malabar*; $5\frac{1}{4}$ inches long.

Bill black; *irids* red. *Female* beneath rufous yellow.

Alpinus. Black, beneath pale rufous spotted with black; from the base of the bill to the neck a white line; hind-claw very long. *Alpine T.*

Inhabits alpine parts of *Persia*; size of *P. caudatus*.

Upper *feathers* of the body edged with cinereous; *quill-feathers* and *coverts* above black, beneath cinereous, the latter tipped with white; *tail* forked; outmost *tail-feathers* with a white wedged spot at the tip.

Sibiricus. Grey-brown, beneath whitish; belly rufous grey; lower part of the neck black in the middle; sides pale rufous. *Siberian T.*

2. Belly and vent white.

Inhabits *Siberia*; 5 inches long.

Bill and *legs* blackish; *quill-feathers* edged with rufous-grey; *tail* slightly wedged; the outmost feathers edged with reddish-grey.

Sibiricus. White; beneath, ocular line and collar livid. Inhabits the oak forests of *Siberia*.

Hudsonius. Reddish-brown; back cinereous; throat black; band under the eyes and breast white; sides rufous.

Hudson's Bay T.

Inhabits

Inhabits *Hudson's Bay*; $5\frac{1}{2}$ inches long.

Bill and *legs* black; *feathers* long, lax at the base; *wings* and rounded *tail* brown, the feathers edged with cinereous.

Macrocephalus. Black; breast orange; belly yellowish; head tumid; spot on the front and wings and 2 outmost tail-feathers white. *Great-headed T.*

2. Breast scarlet.

Inhabits *New Zealand*: $4\frac{1}{2}$ inches long.

Tail long, round, the 2 outmost feathers each side at the tip obliquely black, 3, 3 within tip with white; *legs* dark-brown. *Female* above brownish, beneath yellow.

Nova Seelandia. Red-ash, beneath rufous-grey; eyebrows white; 2 middle tail-feathers black, the lateral ones in the middle with a square black spot. *New-Zealand T.*

Inhabits *New Zealand*; 5 inches long.

Bill brown tip with black; *legs* dusky-black.

Pendulinus. Head ferruginous; ocular band black; quill and tail-feathers brown, edged on each side with ferruginous. *Penduline T.*

Inhabits *Europe* and *Siberia*: $4\frac{1}{2}$ inches long; frequents moist and marshy places, and builds a nest in the shape of a long purse, with an opening on one side, and attached to the end of some branch hanging over the water.

Bill cinereous; *front* whitish; *hind-head* and *neck* cinereous; upper part of the *back* rufous-grey, lower and *rump* grey; *throat* pale ash; *breast* and *belly* pale rufous; *lesser wing-coverts* brown tip with rufous, greater blackish edged with bay; *quill* and *tail-feathers* brown edged with white; *legs* reddish-grey.

Narbonensis. Rufous-grey; crown hoary; wings and tail blackish edged with rufous; primary quill-feathers edged with white. *Languedoc T.*

Inhabits *France*; 4 inches long; builds a strong pendulous nest on the forked branch of a tree.

Bill black, upper mandible edged with yellow-brown; *legs* lead-colour.

Cela. Black; bill white; spot on the wings and base of the tail yellow. *Guiana T.*

Inhabits *Guiana*.

Amsterdam

Amatorius Blackish-blue; longitudinal spot on the middle of the wings half yellow and rufous. *Amorous T.*

Inhabits *Northern Asia*: $5\frac{1}{2}$ inches long; is remarkable for the great affection each sex shews to the other.

Bill black at the base and tip with orange.

Coccineus. Cinereous; breast, spot on the wings, rump and lateral tail-feathers on the hind-part scarlet. *Scarlet T.*

Bill and legs black; vent yellowish.

Indicus. Above cinereous, beneath ferruginous; chin and throat dirty-white; limbs black-brown. *Indian T.*

Inhabits *India*.

89. HIRUNDO. Bill small, weak, curved, subulate, depressed at the base: gape larger than the head: tongue short, broad, cleft: wings long: tail mostly forked. *Swallow.*

These birds chiefly frequent moist and watery places, and skim about near the surface in search of insects, which they catch on the wing with great dexterity by means of the enormous gape of their jaws.

A. Toes 3 before and 1 behind.

* *Rustica*. Front and chin chestnut; tail-feathers, except the 2 middle ones, with a white spot. *Common S.*

2. Body entirely white.

Inhabits almost every where; frequents houses, and usually builds under the roof or in the chimney; leaves *England* in September, and previous to its departure assembles in vast flocks on the tops of houses, churches and even trees; lays 4—6 white eggs speckled with red; is said to presage stormy weather if it flies low: 6 inches long.

Bill black; body above blackish-blue, beneath whitish; tail very much forked; legs short, blackish.

Tahitica. Blackish-brown with a blue gloss above; front and neck beneath purple-tawny; belly and vent sooty; tail, bill and legs black. *Otaheite Sw.*

Inhabits *Otaheite*: 5 inches long. Irids brown.

4 L 2

Esculenta.

Esculenta. Blackish, beneath whitish; all the tail-feathers with a white spot. *Esculent Sw.*

Inhabits *China* and islands of the *Indian Ocean*; $2\frac{1}{4}$ inches long; builds in caverns of rocks, and makes its nest of gelatinous marine substances, in shape resembling an apple cut down the middle. These nests are found in great numbers together, and are by the natives and luxurious Asiatics made into broths, or otherwise cooked, and regarded as one of the greatest dainties of the table; or if they are soiled serve the purposes of glue.

Bill black; tail tipt with white; legs brown.

Borbonica. Blackish-brown, beneath grey spotted with brown; tail entire. *Wheat Sw.*

2. Three outer tail-feathers whitish at the tips.

Inhabits the *Isle of France*; size of *H. apus*; frequents fields sown with wheat; eggs 2, grey spotted with brown.

Francica. Blackish, beneath and rump whitish or grey.

Grey-rumped Sw.

Inhabits the *Isle of France*; $4\frac{1}{4}$ inches long.

Americana. Blackish-brown with a green gloss, beneath whitish; rump and vent rufous; quill-feathers whitish within.

Rufous-rumped Sw.

2. Chin rufous; quill-feathers without the whitish.

Inhabits *South America*: $6\frac{1}{2}$ inches long.

Urbica. Blueish-back, beneath white; tail-feathers without spots.

Martin.

2. Quill and tail-feathers tipt with white.

Inhabits *Europe* and *North America*: $5\frac{1}{4}$ inches long; builds under the eaves of houses, but not in chimnies; eggs white.

Bill black; mouth yellow; rump white; legs covered with a short white down.

Panayana. Black, beneath white; spot on the front and chin rusty-yellow; collar black. *Panayan Sw.*

Inhabits the *Philippine Islands*; size of *H. riparia*.

Lesser wing-coverts of a changeable violet-black.

Rufa. Shining-black, beneath rufous; front whitish.

Rufous-bellied Sw.

Inhabits *Cayenne*: 5 inches long; affixes its nest to beams which is sometimes 1 foot long.

Bill black; legs dusky-black.

[*Cape Sw.*]

- Capensis.* Blackish-blue, beneath yellowish with blackish streaks; cap rufous; lateral tail-feathers with a white spot. *Cape Sw.*
Inhabits the *Cape of Good Hope*: 7 inches long; builds often in houses, and lays 4—5 spotted eggs.
Bill black; *quill-feathers* brown with pale edges; *legs* dusky-black.
- Riparia.* Cinereous; chin and belly white. *Sand Martin.*
Inhabits *Europe* and *North America*: 4½ inches long; builds in holes in sand pits and banks of rivers.
Bill blackish; *throat* encircled with a mouse-coloured ring; *legs* back, downy behind.
- Rupestris.* Mouse-colour, beneath whitish; tail subequal, the feathers with a white spot on the inner web. *Rock Sw.*
Inhabits *Carolina*: size of *H. urbica*; builds in holes of rocks.
Bill and naked *legs* black.
- Montana.* Mouse-colour, beneath rufous; quill and tail-feathers grey-brown edged with rufous, the latter, except the middle and outer ones with a white spot within. *Crag Sw.*
Inhabits, during the summer, rocky and mountainous parts of *France* and *Spain*: 5½ inches long; resembles *H. rupestris*.
Bill and *claws* black; *flanks* brown; *legs* covered with a grey down varied with brown.
- Purpurea.* Entirely violet; tail forked. *Purple Sw.*
Inhabits *Carolina* and *Virginia*, during summer; is very much esteemed by the inhabitants for its use in alarming poultry of the approach of birds of prey, which it does not only by shrieking but attacking them with the greatest fury; 7½ inches long.
Bill black; *legs* blackish: *female* brown.
- Subis.* Blueish-black; beneath and mouth whitish-ash. *Canada Sw.*
Inhabits *Hudson's Bay*: larger than *H. apus*.
Belly white clouded with brown; *quill* and *tail-feathers* blackish edged with brown; *legs* and *claws* dusky.
- Senegalen-
sis.* Shining-black, beneath and rump rufous. *Senegal Sw.*
Inhabits *Senegal*: 8½ inches long.
Bill black; *chin* pale. *Ambro.*

Ambrosia. Grey-brey-brown; bill blackish; legs brown.
ca. *Ambergris Sw.*

2. Pale ash, beneath paler.

Inhabits *Senegal*; $5\frac{1}{2}$ inches long; smells strongly of ambergris.

Fasciata. Black: transverse band on the belly and spot on the outer part of the thighs white. *White-bellied Sw.*

Inhabits *Cayenne* and *Guiana*; 6 inches long.

Tapera. Tail-feathers equal; body blackish, beneath white.

Brasilian Sw.

Inhabits *Brasil*, *Cayenne* and *Jamaica*: $5\frac{1}{4}$ inches long.

Bill black; throat and breast grey-brown; quill and tail-feathers blackish-brown; legs brown.

Torquata. Brown, beneath white; tail even; pectoral band brown; between the bill and eyes a white spot.

Brown-collared Sw.

Inhabits the *Cape of Good Hope*; 6 inches long.

Leucoptera Cinereous with a gloss of blue and green, beneath, rump and wings waved with white. *White-winged Sw.*

2. Brown, beneath spotted with brown.

Inhabits marshy places of *Guiana*; $4\frac{1}{2}$ inches long.

Bill black; wings longer than the tail; quill and tail-feathers brown with a blue and green gloss; legs pale.

Pelagica. Tail-feathers equal, naked and subulate at the tip.

Aculeated Sw.

2. Throat whitish spotted with brown.

3. Rump grey; throat rufous-grey.

Inhabits *America*: $4\frac{1}{4}$ inches long; builds in chimnies.

Bill and body brown; chin whitish.

Acuta. Black, beneath brown; tail-feathers naked and subulate at the tip. *Sharp-tailed Sw.*

2. Body beneath chestnut.

Inhabits *Martinico*: $3\frac{1}{4}$ inches long.

Bill and legs brown.

Zonaris. Black with a white collar.

White-collared Sw.

Inhabits *America*. *Cim. Phys.* 100. tab. 55.

Danuvica

- Daurica.* Blue, beneath white; temples and rump ferruginous.
Daurian Sw.
 Inhabits alpine parts of *Siberia*: larger than the common swallow; builds an hemispherical nest in the clefts of the highest rocks.
 - *Temples* ferruginous; primary *quill-feathers* blackish, the tips obtuse with a brown streak, the first long; outmost *tail-feather* twice as long as the rest; *vent* pale-ash, the feathers tipped with black.
- Erythrocephala.* Dusky-black, the feathers edged with white, beneath white; head red. *Red-headed Sw.*
 Inhabits *India*; size of the least humming-bird.
Tail-coverts brownish.
- Asonalaishensis.* Black, beneath cinereous; rump whitish. *Asonalaishka Sw.*
 Inhabits *Asonalaishka*; $4\frac{1}{2}$ inches long.
- Indica.* Brown, beneath whitish; greater part of the head rufous. *Rufous-headed Sw.*
 Inhabits *India*: 4 inches long.
 Some of the *wing-coverts* edged with white; *quill-feathers* longer than the tail; *legs* dusky.
- Nigra.* Entirely black. *Black Sw.*
 2. Front with a white stripe.
 3. Entirely blackish-grey.
 Inhabits interior parts of *South America*; 6 inches long; builds in a deep hole in the ground, with a long entrance.
- Dominicensis.* Black with a steel gloss; belly white. *St. Domingo Sw.*
 Inhabits *St. Domingo*; 7 inches long: migrates.
Bill and *legs* brown.
- Peruviana.* Black, beneath white; band on the belly pale ash; quill and tail-feathers pale grey edged with yellowish-grey. *Peruvian Sw.*
 Inhabits *Peru*. Round the black eyes a brown circle.
- Cinerea.* Black, beneath cinereous; quill and tail-feathers cinereous edged with yellowish-grey. *Ash-bellied Sw.*
 Inhabits *Peru* and *Otaheite*; less than the common sw.
 2. Entirely blackish-grey.
 Inhabits *Louisiana*. *Wings* longer than the tail.
- Violacea.*

Violacea. Black-blue tinged with violet; greater quill-feathers within, bill and legs blackish. *Violet Sw.*
Inhabits *Louisiana*; 8½ inches long.

Chalybea. Black with a steel gloss, beneath white; wings and tail black; bill and legs brown. *Chalybeate Sw.*
Inhabits *Cayenne*; 6 inches long; lays in hollow trees.

B. Toes all placed forwards.

* *Apus.* Blackish; chin white. *Swift.*
Inhabits almost every where; 8 inches long: flies about chiefly in a morning and evening; its feet are so small that it rises from the ground and walks with great difficulty; is mostly on the wing, and rests by clinging to some wall: builds under the eaves of houses, in steeples and other lofty buildings; retires from *England*, either by migration or becoming torpid, very early in the autumn.

Melba. Brown; chin and belly white. *White-bellied Swift.*
Inhabits *Southern Europe* and *Asia*; 8½ inches long; builds in holes of turrets and rocks; migrates.
Bill black; collar grey-brown varied with blackish; wings and tail with a gloss of red and green; breast white; lower part of the belly grey-brown; legs flesh-colour, downy on the fore-part.

Cayennensis. Blackish-violet; head black; collar, bifid ocular band and thighs white. *White-collared Swift.*
Inhabits *Cayenne*; 5½ inches long; builds a long conic nest with a division in the middle.
Greater wing-coverts brown edged with white; legs downy.

Sinensis. Brown, beneath reddish-grey; crown pale rufous; eye-brows brown: chin and eyelids white. *Chinese Swift.*
Inhabits *China*; 11½ inches long.
Bill, irids and legs blue-grey; wings long.

90. CAPRIMULGUS. *Bill* slightly curved, very small, subulate, and depressed at the base: *mouth* extremely wide and furnished at the sides with a series of bristles: *ears* very large: *tongue* pointed, entire: *tail* not forked, feathers 10: *legs* short; middle claw with a broad ferrate edge.

Goatsucker:

The birds of this family seldom appear in the day time, except they are disturbed, or in dark cloudy weather, but wander about in the evening in search of insects; they lay 2 eggs which they deposit on the naked ground: the lateral toes are connected by a small membrane to the middle one.

Europæus Black varied with cinereous, brown, ferruginous and white; beneath reddish-white with brown bands.

European G.

Inhabits *Europe, Asia and Africa*; during summer frequents the woods of *England*: $10\frac{1}{2}$ inches long; feeds chiefly on beetles and moths; its note is singular, resembling the noise made by a large spinning wheel; this bird was formerly, but absurdly, accused of sucking the teats of goats, whence its name, eggs whitish marbled with blueish-brown.

Irids hazel; *legs* short, scaly, feathered below the knees.

The *male* is distinguished from the *female* by a large oval white spot near the end of the 3 first quill-feathers, and another on the outmost tail-feathers.

Virginianus. Brown, transversely varied with grey-brown and a little cinereous; beneath reddish-white transversely streaked; chin with a triangular white spot; area of the eyes and neck above spotted with orange. *Virginian G.*

Inhabits *North America*; 8 inches long; makes a disagreeable loud noise all night long; eggs green with dusky spots and streaks.

Cheeks brown-ash; *quill-feathers* dark-brown, the 5 first on the middle, and outmost *tail-feathers* near the tip with a spot; *legs* flesh-colour.

Carolinensis. Above varied with transverse, angular, alternate, blackish and grey lines, beneath reddish-grey with blackish longitudinal lines; 3 outer tail-feathers white on the inner side. *Carolina G.*

Inhabits *North America*; $11\frac{1}{2}$ inches long.

Bill blackish; *crown* with grey spots; 3 first *quill-feathers* with a largish white spot; *legs* brown; *eggs* olive with blackish spots.

Griseus. Grey; wings black with pale grey lines; tail brownish-grey with brown lines. *Grey G.*

Inhabits *Cayenne*: 13 inches long.

Bill above brown, beneath yellowish; *tail* 5 inches long.

Jamaicensis. Ferruginous streaked with black; wings varied with white; quill-feathers brown with white spots; tail-feathers barred with black. *Jamaica G.*

Inhabits woods of *Jamaica*; 16 inches long.

Bill black; *nostrils* covered with feathers; *irids* reddish-yellow; *legs* large, feathered to the toes, yellow; *claws* black.

Grandis. Blackish with small brown spots and streaks; area of the eyes yellowish; legs white; middle claw not serrate. *Grand G.*

Inhabits *Cayenne*; near 2 feet long; the gape of its mouth is so large as readily to admit a man's fist.

Bill feathered nearly to the tip; wings brown on the outer edge; quill-feathers dusky-black with a black shaft each side lined with white; tail brown with spotted bars; legs brown, feathered nearly to the toes.

Albicollis. Rufous-brown varied with white and blackish, beneath with transverse brown and blackish lines; throat with a triangular white spot. *White-throated G.*

Inhabits *Cayenne*; 10 inches long.

Bill and *legs* long; lesser quill-feathers spotted with rufous without, greater black with a white band in the middle; third tail-feather white, second within white without black, outmost black with a white spot near the base; middle-very long.

Rufus.

- Rufus*. Rufous, longitudinally streaked with black and varied with black and white; chin with transverse lines; tail barred with black; quill-feathers with alternate rufous and black stripes. *Rufous G.*
Inhabits *Cayenne*: 10 $\frac{1}{2}$ inches long.
Bill brownish; *irids* yellow; *wings* with transverse black bars; upper part of the *belly* inclining to black, lower to rufous; *legs* flesh-colour.
- Guianensis*. Tawny streaked and spotted with rufous; a white band from the gape through the mandibles and reaching below the chin; quill-feathers black, the 5 or 6 first with a white spot. *Guiana G.*
Inhabits *Guiana*: 5 inches long.
Crown and *neck* above with longitudinal streaks; *back* with oblique, and *body* beneath with transverse ones; *tail* 3 inches long, reaching an inch beyond the wings.
- Brasili-
nus*. Yellowish-black varied with white specks, beneath varied with white and black; area of the eyes yellowish-white. *Brasilian G.*
Inhabits *Brasil*: size of a swallow. *Tail* expansive.
Orbits pale ochre; *bill* and *eyes* black; *legs* white.
- Semitor-
quatus*. Blackish varied with rufous and grey; half-collar white. *White-collared G.*
Inhabits *Cayenne*: 1 inches long.
- Cayennensis*. Grey varied with black; throat and bar on the wings white; temples rufous with 5 black streaks; back rufous streaked with black; quill-feathers black, the first 5 with a white spot. *White-necked G.*
Inhabits *Cayenne*: 7 $\frac{1}{2}$ inches long.
Bill black; *head* and *neck* above tinged with rufous; lower part of the *belly* whitish spotted with black; 2 middle *tail-feathers* grey with 5—6 blackish bars, lateral ones black, edged with white; *legs* yellow-brown.
- Acutus*. Head and neck with rufous transverse streaks varied with brown and black; body streaked with black, above grey, beneath rufous; tail pale rufous with black spots and bar near the end. *Sharp-tailed G.*
Inhabits

Inhabits *Guiana*: 7½ inches long.

Bill and *legs* black; *tail* a little longer than the wings, the bar near the end bordered above with white.

America-nus. Variegated with grey, black and dead-leaf-colour; nostrils eminent, cylindrical. *American G.*

Inhabits *Jamaica*: 7 inches long.

Bill black; *legs* grey.

Torquatus. Brown-ash spotted with yellow; hind-head with a golden ring; collar spotted with whitish; 2 middle tail-feathers much longer. *Gold-collared G.*

Inhabits *Brazil*: size of a lark.

Head large, depressed; *eyes* black; *legs* dusky-black.

Asiaticus. Pale ash waved with black and ferruginous; breast with cinereous bands; crown with a blackish streak, one on the jaws and spot on the chin pale. *Bombay G.*

Inhabits *India*: 8½ inches long.

First 4 *quill-feathers* with a white spot on the inner webs; *tail-feathers* barred with rufous, 2 outmost tipt with white.

Indicus. Pale ash with transverse black lines; cheeks, breast and wings spotted with ferruginous; tail-feathers blueish barred with black, the outmost varied with ferruginous and black. *Indian G.*

Inhabits *India*.

Crown and *back* pale ash, elegantly streaked with fine blackish lines.

Novæ Hol-landiæ. Waved with brown, black and whitish, beneath whitish, neck and breast with dusky bands; crest on the front erect, setaceous. *Crested G.*

Inhabits *New Holland*: 9½ inches long.

Bill black; behind the base of the upper mandible an erect crest of 12 bristles, which are thinly barbed at the sides; *quill-feathers* brown, the outmost 5 or 6 with whitish spots on the outer side; *tail* rounded, brown, with 12 whitish bands waved with blackish; *legs* longish, yellow.

Longipennis. Variegated grey; wings spotted rufous and black; a very long naked-shafted feather on each shoulder.

Leona G.
Inhabits

Inhabits *Sierre Leona*: size of a starling. *Nat. Mis.* 265.

Naked-shaft *feathers* projecting from the midst of the smaller *wing-coverts* twice as long as the whole bird, naked part black, slightly bearded each side, the ends webbed, dusky with a few obscure transverse bars; *body* blackish-grey, elegantly varied with specks of black, rufous and whitish; *wings* ferruginous, all the feathers except the smaller *coverts* with numerous blackish bars; *under-parts* pale ferruginous dashed with bars and patches; round the back of the *neck* a sort of ferruginous collar or band; *tail* shorter than the wings, cinereous with blackish bars and freckles; *feet* small.

CLASS

CLASS III. AMPHIBIA.

THIS class of animals is distinguished by a body cold and generally naked; a countenance stern and expressive; voice harsh; colour mottly lurid, and filthy odour: a few are furnished with a horrid poison; all have cartilagenous bones, slow circulation, exquisite sight and hearing, large pulmonary vessels, lobate liver, oblong thick stomach, and cystic, hepatic, and pancreatic ducts: they are deficient in diaphragm, do not transpire, can live a long time without food, are tenacious of life, and have the power of reproducing parts which have been destroyed or lost: some undergo a metamorphosis; some cast their skin; some appear to live promiscuously on land or in the water, and some are torpid during the winter.

They are divided into 2 *Orders*.

I. REPTILES. These have *feet*, and flat naked ears without auricles.

II. SERPENTS. *Feet* 0; *eggs* connected in a chain, and *penis* double, muricate.

These last are cast upon the earth naked, without limbs, exposed to every injury, but frequently armed with a poison the most deadly and horrible; this is contained in tubular fangs resembling teeth, placed without the upper jaw, protruded or retracted at pleasure, and surrounded with a glandular vesicle by which this fatal fluid is secreted. But lest this tribe should too much encroach upon the limits of other animals, the benevolent Author of nature has armed about a fifth part only (which are marked ♂) in this dreadful manner, and has ordained that all should cast their skins, in order to inspire a necessary suspicion of the whole. The jaws are dilatable and not articulate, and the œsophagus so lax that they can swallow, without mastication, an animal twice or thrice as large as the neck; the colour is variable and changes according to season, age, or mode of living, and frequently vanishes or turns to another in the dead body; tongue filiform, bifid; skin reticulate.

CHARACTERS

CHARACTERS of the AMPHIBIA.

I. REPTILES. *With feet.*

1. TESTUDO. Body 4-footed, covered with a shell.
3. *Draco*. Body 4-footed, tailed and winged.
4. *Lacerta*. Body (mostly) 4-footed, tailed, naked.
2. *Rana*. Body 5-footed, naked, tailless.
5. *Siren*. Body 2-footed, tailed, naked.

II. SERPENTS. *Feet 0.*

6. *Crotalus*. Plates on the belly and tail, with a rattle.
7. *Boa*. Plates on the belly and tail, without a rattle.
8. *Coluber*. Plates on the belly ; scales on the tail.
9. *Anguis*. Scales on the belly and tail.
10. *Ampisbæna*. Rings on the belly and tail.
11. *Cæcilia*. Body with naked lateral wrinkles.
12. *Achrochordus*. Body-covered with warty tubercles.

AMPHIBIA.

AMPHIBIA.

ORDER I. REPTILES.

Lungs arbitrary; legs (generally) 4: penis simple.

1. TESTUDO. *Body tailed, covered above and beneath with a bony or coriaceous shell, or scales above: upper jaw inclosing the lower like the lid of a box.*

These are held in abhorrence by the Persians; are very fertile, and in the egg state the prey of many ravenous animals; feed on worms, the marine ones on sea weeds, and when tamed will eat almost any thing; are extremely slow, and in copulation frequently adhere together a month; are capable of existing a long time in noxious air, and so tenacious of life, that if the head be cut off, or the chest opened, they will live several days; the land ones are torpid during winter, in cold climates. The *shell* consists of 2 connected laminae, the upper convex, covered with scutels which of the disk are 13, of the margin 24; the lower concave, particularly in the male, obtuse on the fore-part and notched behind, divided by sutures into scutels; between the 2 laminae is an anterior aperture for the head and arms, and a posterior one for the tail and thighs.

A. *Legs fin-shaped, the foremost longer.* Marine Turtles.

**Coriacea.* Shell coriaceous, longitudinally grooved.

Coriaceous Tortoise.

2. Shell tuberculate.

Inhabits the *Mediterranean* and *Atlantic* seas; about 6 feet long, 3 wide; flesh not good.

Upper *jaw* bifurcate at the end, extremity of the lower one sharp, clasping into the fork of the upper; *nostrils* small, round; *hide* resembling black leather, divided into 5 grooves.
Imbricate.

Imbricata. Fore and hind-feet 2-clawed; plates lax, lying over each other. *Hawk's-bill Turtle.*

Inhabits *America* and *Asiatic* seas; above 2 inches long.

Body depressed; head longish; shell oval; ribs of the plate 3, slender, carinate, interrupted, acute, at the edge, serrate behind, with 34 unequal scales, chiefly pentagonal, of which 13 are on the disk, the rest on the margin. The plates are the tortoise-shell of the shops.

Mydas. Fore-feet 2-clawed; hind-feet solitary; shell oval.

2. Claws pointed, one on each foot.

3. Beak like the bill of a goose.

4. Beak like the bill of a fowl.

5. Plate of the shell very large.

Inhabits *Southern* seas; is the largest of its tribe, and so strong as to be able to run with a load of 600 pounds weight, and to move with as many men as can sit upon its back; sleeps on the water upon its back, but when turned up on land is not able to move; lays numerous round membranaceous eggs (as many as 1000) which it deposits in the sand and sits upon by night; flesh and green fat delicious and greedily sought after by scorbutic sailors; feeds on sepia and shell-fish.

Caretta. Plates of the back gibbous behind; fore and hind-feet 2-clawed.

Inhabits near the *American* and *Mediterranean* islands; affords tortoise-shell; flesh rancid.

Head middle size; mouth large; beak long, stout; back more prominent and gibbous than others; shell thick, elegantly painted.

Macropus. Shell oval, keeled, notched; feet large, 2-clawed.

B. Feet palmate; shell joined to the chest by a membrane, and propped each side in the middle by 2 processes of the chest. *River Turtles.*

Orbicularis Shell round, flattish, smooth.

Round Tortoise.

2. Shell dotted.

3. Shell rough.

Inhabits *Europe* as far as *Prussia*.

Shell of the female very entire at the edge and smoother on the surface; plate of the male sub-convex white, as is the head, and furrowed with small black streaks, behind much less

notched than the female, the scutels deeper grooved, some of the middle of those on the back sub-carinate; *chest* rougher, a little sinuate, brown, in the female yellow, whose neck and feet are also more variegated with yellow spots.

Membranacea. Feet 3-clawed; dorsal shell membranaceous, oval, streaked with grey.

Inhabits the *Guiana* seas; very small, probably only a variety of *T. cartilaginea*.

Triunguis. Feet 3-clawed; disk of the back orbicular wrinkled, border more depressed, smooth; nostrils in an elevated cylinder projecting beyond the head.

Inhabits the *Nile*; a rare species.

Cartilaginea. Shell round membranaceous, striate on the back; feet 3-clawed; nose cylindrical, projecting.

Head depressed; *lips* broad, yellow, the upper turned up, the lower down; aperture of the *eye* horizontal; upper *eyelid* broader than the lower; *plate* sprinkled with elevated grains, edge of the notched part revolute, the anterior part convex in the middle, behind flat, depressed; *scutels* on the plate or chest 6, which latter is as long as the back shell.

Ferox. Shell cartilaginous, oval; feet 3-clawed; nostrils tubular, prominent.

Inhabits the rivers of *South America*; 20 inches long, 14 broad, about 70 pounds weight; flesh very delicate; is fierce, and defends itself by biting.

Head subtrigonal, narrowed before, dilatated behind; *neck* long, thick; *eyes* contiguous, eyelids broad, lax, pupil narrow, iris citron; each *jaw* consists of one bone; upper *lip* broader than the lower; *nose* like the snout of a mole, but soft, thin, pellucid, cartilaginous; *arms* thick, stout, and with the hands covered with a lax, folding, dusky-green skin; *fore-feet* with 2 spurious claws; *hind-feet* only 1, whitish; *tail* thick, broad, originating an inch beneath the vent, equal in length to the hinder part of the dorsal plate; dorsal plate black-brown tinged with green, bony in the middle, cartilaginous, flexile on the sides, behind and before sprinkled with smooth oblong tubercles; beneath whitish, elegantly veined; *chest* clear whitish, cartilaginous on the fore-part, and reaching 2—3 inches beyond the dorsal plate, behind bony, resembling a saddle.

Scabra. Head smooth, particoloured; plate oval, scarcely convex, highly keeled and rough.

Body a finger's length; *skin* warty, sprinkled with a few scales; *plate* oval, 22 inches long, 15 broad, on the fore-part moderately blunt with a convex, crenate circumference, behind rounded, a little serrate, and at last notched, surface covered with angular warty scales.

Squamata. Body oval; above, neck tail and legs scaly; beneath smooth, soft.

Inhabits rivers of *Java*; burrows on the banks, and in conjunction with other reptiles hunts fish; flesh very good.

Head small, resembling a serpent's; *eyes* small, moveable; *teeth* sharp; *scales* less towards the head.

Lutaria. Tail half as long as the body; shell flattish, carinate on the hind-part with 3 scutels.

2. Shell tubular.

3. Shell campanulate.

Inhabits lakes on the banks of the *Tanaïs*, *Volga*, *Ural*, and other *Indian* and *Eastern* rivers.

Fore-feet more palmate than the hind; *chest* truncate on the hind-part; *feet* 4-clawed; *claws* sharp.

Scorpioides. Fore-feet 5-clawed, hind 4-clawed; front callous, 3-lobed; tail with a claw at the end.

Inhabits *Surinam*.

Shell black, oblong, oval with 3 obsolete angles on the back; *scutels* on the back resembling armorial shields; *head* on the fore-part covered with a callosity which is 3-lobed on the hind-part; *outer-toe* of the hind-feet unarmed; *claws* sharp, that of the tail incurvate.

Hermanni. Feet 4-clawed; tail terminating in a claw.

Length half a foot; *shell* convex, variegated with yellow and black; *scutels* of the margin 24, the 2 last more convex; *teeth* 0; *hind-feet* like those of the elephant; *claw* of the tail bony, bent inwards, $\frac{1}{2}$ an inch long.

Carolina. Feet digitate; shell gibbous; tail 0.

Inhabits *Carolina*.

Head obtusish, covered with callous scales; incisure of the *plate* lunate on the fore-part, sharp edged; *scutels* broad, flat, striate

striate on the margin with hollow dots in the middle; *chest* before truncate, behind bifid; *legs* covered with round scales. the fore 5-clawed, hind 4, acute, stout.

Palustris. Shell depressed; fore-feet 5-clawed, hind-feet 4.

Inhabits stagnant waters in *Jamaica*: 8—9 inches long; wanders into meadows in search of food; *body* depressed, oval.

Caspica. Shell round; fore-feet 5-clawed, hind-feet 4.; head scaly; tail naked.

Inhabits fresh waters in *Hircania*; sometimes grows so large as to bear the weight of a man.

Plate more than 8 inches long and 7 broad, convex, variegated with black and green; *scutels* of the margin 25 parallelogram, of the disk 5 subquadrate, with confluent sutures. sometimes straight, sometimes curved; *chest* more than 7 inches long, 3 broad, smooth, blackish, spotted with white, behind bifid, obtuse, before marked with a triangular furrow, each side with a longitudinal spiral furrow and 4 transverse ones.

Clausia. Scutels of the disk carinate; chest a little bowed and pressed to the plate by means of valves.

Inhabits *North America*: by means of the 2 valves the shell can be so completely closed as not to admit water.

Pensylvanica. Fore-feet 5-clawed; hind-feet 4; tail tipped with a sharp horn.

Inhabits stagnant waters in *Pennsylvania*; when alive smells of musk; by means of the tip of the tail turned in it climbs up slippery hills and stops itself; *tail* short.

Serpentina. Feet digitate; shell subcarinate, the hind-part obtuse with 5 sharp teeth.

Inhabits fresh waters in *Algiria* and *China*; bites in the water. *Head* resembling a serpent's; *tail* as long as the shell.

Spengleri. Shell yellow, subcarinate, hind-part obtuse with 10 sharp teeth; scales imbricate.

Resembles the last.

Fimbria. Shell striate, spiny; front callous, 3-lobed.

Inhabits

Inhabits savannas of *South America*.

Head flat, 3-cornered; neck long, much wrinkled; has a great resemblance to *T. scorpioides*.

C. Feet clavate, clawed; shell convex, joined to the chest by bony commissures. Land Tortoises.

Denticulata. Feet subdigitate; shell round-heart-shaped, the margin irregularly scooped.

Inhabits *Virginia*: something larger than a turkey's egg.

Shell palish dusky, covered with 6-sided rough scales; tail shorter than the feet; feet like an elephant's, 5—4 clawed, toes not very distinct.

Græca. Feet subdigitate; shell gibbous behind, lateral margin very obtuse; scutels flattish.

Inhabits *Africa* and *Sardinia*; the Greeks are very fond of its flesh and eggs, and drink its blood; the male when irritated runs and butts its head against a stone; hides under ground in September and emerges in February; lays 4—5 white eggs in holes which it digs in warm sunny places, they are about the size of a pigeon's, and the young come forth after the equinoctial rains not larger than a walnut.

Body tailed, $6\frac{1}{2}$ inches long, 4 pounds weight; hind-feet 4-toed, fore generally 5, sometimes 4; shell oval, very entire at the margin; plate very convex, and with the skin variegated black and yellow.

Carinata. Feet digitate; shell gibbous; the 4 anterior scutels of the back carinate; chest entire.

Inhabits warm regions.

Geometrica. Shell oval; all the scutels elevated, flat above with yellow stripes running from a centre in a stellate manner.

Inhabits *Dalmatia*, southern *Russia*, *Asia* and *South America*.

Tail short; feet all cleft, the fore 5-toed, the hind 4, all with claws; shell frequently a foot and a half long, very gibbous with elevated scutels yellow in the middle, hexagonal and striate towards the circumference; chest behind sharply notched.

Melagris. Feet digitate; shell oval, smooth, speckled with numerous yellow dots.

Inhabits

Inhabits *America* : about 5—6 inches long.

Shell deep chestnut, covered with innumerable oval, yellowish-white specks, smooth, except that down the middle of the 3 central scutels runs an obscure keel, margin smooth ; lower surface pale yellow with a few irregular brown patches ; head and eyes large ; claws strong ; tail longish, scaly.

Pusilla. Feet subdigitate ; shell hemispheric with convex trapeziform scutels, the edge striate, the disk dotted.

Inhabits the *Cape* ; when tamed eats any thing offered it, except milk or animal food, but abstains from food during the winter, and does not go into the water ; is very slow of motion unless driven by heat.

Upper shell moderately convex, hardly the size of a man's hand, surrounded within the margin by a whitish band, and ornamented with 22 dusky 3-sided patches ; scutels of the disk in the middle with elevated dots, the 2 first subcarinate, the rest not ; lower shell reddish, the fore-part entire, the hind notched ; arms and thighs without scales ; fore-feet undivided, 5-clawed, hind-feet indistinctly digitate, 4-clawed ; tail short.

Indica. Shell turned back above the neck ; 3 first scutels tuberos.

Inhabits *India*.

Jaws serrate, with a double row of teeth ; shell brown-ash, the 3 first pieces with a round, uneven, elevated knob.

Picta. Shell flat, each side with a double blackish-blue spot ; scutels surrounded with a yellow edge ; neck longitudinally streaked with yellow and black.

Claws short, acute ; tail short ; chest yellow with a black line in the middle.

Sulcata. Tailed ; feet digitate ; shell gibbous ; scutels lineate, surrounded by a furrow.

Inhabits islands in the *South American* seas.

Planaria. Feet digitate ; shell oval, convex, smooth.

Inhabits *Surinam*.

Head oval, the fore-part acute, above broad ; eyes large, round, contiguous ; tip of the beak obtuse, prominent ; jaws without teeth, the lower hooked at the point ; tongue round ; scutels elevated, broad ; chest narrowed at the sides ; feet thick, short, each with 5 acute, curved claws.

Terricola.

Terrestris. Shell oval, gibbous; scutels of the disk yellow in the middle, edged with shining black, furrowed, the lateral ones many sided.

Inhabits *South America*.

Head resembling that of a serpent, above with yellow, beneath with red spots; *jaws* channelled, containing minute teeth; *tongue* round, broad; *eyes* black, languid, moist; *neck* when extended, 4 inches long, covered with a dusky, wrinkled, scaly skin; *thighs* thick, curved, spotted with red; *fore-feet* 5-clawed, hind 4; *plate* 10 inches long, $6\frac{1}{2}$ broad, 5 high; *scutels* of the back 13, the first of the middle series pentagonal, 2—4 hexagonal, 5 trapeziform; *margin* black, striate; *chest* yellow; *tail* thick, conic, about an inch long.

Longicollis Shell smooth, oval; neck very long.

Inhabits *New Holland*.

Body above deep olive-brown, beneath pale whitish-yellow, the shell deeper yellow, and stained at all the junctures with black-brown, so as to form so many crossings of that colour; *shell* nearly smooth, but in some parts resembling the grain of common black leather; *head* smooth; *neck* extremely long, its upper surface marked with oval granulations, giving it a serpentine appearance; *fore-feet* short, tetradactylous, loosely scaled, and somewhat pinnate by a continuation of the skin; *hind-feet* longer, more widely pinnate, tetradactylous; *claws* resembling those of birds; *tail* short, being a mere elongation of the skin.

2. RANA. *Body* 4-footed, naked: *tail* generally 0: *hind-legs* longer than the fore.

This genus differs from the *lacerta* in having a shorter body, broader, thicker head, and in general no tail. They feed on insects, are full grown the fourth year, and seldom live beyond the twelfth; *fore-feet* mostly cleft, 4-toed, *hind-feet* palmate, 5-toed, all without claws; are very voracious, sticking to the female for days and weeks; the tadpole is excluded from the egg without feet, but with a tail resembling a fish's, which drops off as the legs are protruded; in this state they have likewise a sort of gills and subsidiary lungs, and many a small tube on the lower lip, by which they can affix themselves to other bodies, or near the left eye a vesicle from which

which they discharge water; in breeding-time the fore-thumb of the male is warty: *toads* are filthy in their aspect, and live in damp, obscure, dark places, and crawl out only by night, their eggs are in a long connected chain: *frogs* are more active, more about by day, and lay their eggs in a confused mass.

A. *Body warty, puffed up; legs shorter.* Toads.

Pipa.

Toes of the fore-feet unarmed, 4-cleft, of the hind-feet clawed, palmate. *Surinam Toad.*

Inhabits the waters of *Guiana*, and is eaten by the natives. In this extraordinary animal, the male, after the exclusion of the eggs, collects the mass together and smears it over the back of the females with its paws, where they are received into cellules, impregnated by the male and closed up; after some time the perfect young are excluded from these hollow tubercles on the back of the female, without gills, and at first without tails, the tails are produced soon after, and at last drop off.

Head flat, broad, very short; *beak* spatula-shaped; *eyes* very small and remote; *neck* very short, wrinkled; *body* orbicular, flat, black-bay, with a hard cartilaginous skin; *fore-toes* round, hind very long, connected by an undivided membrane.

Musica.

Shoulders gibbous, dotted.

Musical Toad.

Inhabits fresh waters in *Surinam*: larger than the common toad; in the evening and during the whole night makes a musical kind of croaking.

Body varied with lurid and brown; upper *eyelid* wrinkled, a little warty; *shoulders* each side with an oval gibbosity perforated with dots; *belly* and *thighs* with raised dots; *fore-feet* cleft; *hind-feet* subpalmate, 5-toed, with hardly any claws.

• *Bufo.*

Body lurid and brown.

Common Toad.

2. Back olive; an unequal yellowish-red band down the side.
3. Body with confluent green spots and warts on the spots of the same colour, those of the intervals red; the spaces between bicoloured.
4. Much less.

Inhabits

Inhabits woods and shady damp places of *Europe*: lives during spring and summer in stagnant shallow water, in winter in muddy places and not unfrequently in holes of its own digging; feeds by night on various insects; is so tenacious of life that it has been found alive inclosed in rocks, where it must have remained for years; is devoured by the eagle and hawk tribe, and even domesticated by the natives of *Ucrania*.

Rubeta. Vent obtuse; a yellow line on the back; body beneath spotted with black. *Natter Jack*.

Inhabits dry sandy places of *Europe*: appears in the evening especially after showers, and is the species which has been supposed to have been rained down; is of quicker motion than the last; $2\frac{1}{4}$ inches long, $1\frac{1}{4}$ broad.

Body above dirty yellow clouded with brown, and covered with porous pimples of unequal sizes, beneath paler with rough black spots; *fore-feet* with 4 divided toes, *hind-feet* 5, a little webbed.

Gibbosa. Body oval, convex, with a longitudinal cinereous dentate band. *Gibbous Toad*.

2. Back marbled with red and yellowish-ash; belly yellow spotted with black.

Inhabits *India*, 2) *Surinam*.

Ribina. Belly orange spotted with sky-blue; pupil triangular. *Laughing Toad*.

2. Belly black with clear white spots and points.

3. Brown with white spots; sides and round the joints red.

4. With a very loud sonorous voice.

Inhabits fenny places in *Germany* and *Helvetia*; leaps like a frog; emits a clear sound like a man laughing; resembles the common toad, but is small, black, and every where rough with dots on the upper part and variegated beneath, with a transverse wrinkle under the neck.

Sa. Above dirty-olive; beneath white spotted with black. *Salt Toad*.

Inhabits stagnant salt waters of *Berchtesgad*; less than *R. arborea*; avoids light, is inodorous and emits no liquid from its minute perforated warts; legs with brown bands, beneath yellow.

Ventricosa. Mouth semiovate ; throat prominent.

Tumid Toad.

2. With pale white pustules.

Inhabits *South America* and *India*.

Body brown, orbicular ; *tubercles* on the top of the neck longitudinally disposed ; *back* with 8 longitudinal wrinkles ; *flanks* tumid, dilated.

Marina. Shoulders tumid ; eyelids warty, conchate ; hind-feet subpalmate.

Marine Toad.

2. Above spotted with brown ; beneath shaded with livid ; neck and shoulders spotted with grey.

Inhabits *America* : of vast size, above 6 inches long.

Body yellowish-grey with a few tawnyish spots ; *warts* with an elevated bay spot in the middle ; protuberances of the *shoulders* oval, smooth, porous ; vent surrounded with wrinkled radii ; *hind-toes* connected only as far as the first joint, the last joint fringed with a bay membrane.

*Brafilien-
fis*. Yellowish-ash with red waved spots, beneath smooth.

Brazil Toad.

Arunco. All the feet palmate.

Chili Toad.

Inhabits waters of *Chili* : in size and colour resembles *R. temporaria* ; on the hind-toes is a slight appearance of claws.

Lutea. Body yellow ; all the feet subpalmate.

Yellow Toad.

Inhabits *Chili* ; resembles in habits *R. esculenta*, but much less ; the last joint of the toes not connected.

Margaritifera. Body brown-red, sprinkled with pale red specks.

Pearled Toad.

Cornuta. Eyelids horned.

Horned Toad.

Inhabits *Virginia* and *Surinam* ; of all animals this is perhaps the most deformed.

Head large, rounded before ; *mouth* excessively large ; *eyelids* soft, mucronate, trifid at the point, the eyes seated in the middle ; *body* greenish-brown with broad longitudinal whitish stripes on the back ; *legs* transversely fasciate with brown ; when full grown the *back*, *thighs* and *vent* are spiny.

Sitouna

Sitibunda. Above ashy-glaucous varied with blackish-green spots, beneath dirty-white; hind-feet semipalmate, with the appearance of 7 toes. *Desert Toad.*

Inhabits dry deserts near the *Ural*: sometimes hides in holes and crawls out in the evening; resembles the common toad, but is larger.

Vespertina. A transverse spot between the eyes forked behind, and other spots running obliquely from the eyes to the nose; body above cinereous, with longitudinal subconfuent brown spots varied with different shades of green, beneath dashed with whitish-ash. *Siberian Toad.*

Inhabits *Siberia*; size of the common toad; leaps slowly.

Head short; body above sprinkled with subwarted papillæ.

Ridibunda. Body brown, spotted above with cinereous; dorsal line yellow or greenish; beneath smooth, whitish; haunches brown spotted with milk-white.

Jocular Toad.

Found in great numbers near the rivers which empty themselves into the *Caspian* sea; never ventures on dry land; is very large, and often weighs more than half a pound; resembles *R. temporaria*, but broader and shorter; its voice in the evening is like a man laughing.

Head broad; upper eyelid convex sprinkled with pores; apertures of the ears flat; back porous; sides with obsolete warts; fore-thumb divaricate, thick at the base, the next toe shorter than all the rest; hind-limbs subfasciate; hind-feet with a callus within resembling a sixth toe; toes with a wart beneath near the joints.

Variabilis. Colour variable; back and sides gibbous; warts yellowish in the centre, very small on the middle of the back, and larger on the most prominent part of the flanks.

Changeable Toad.

Inhabits shady places in lower *Germany*; above 2 inches long; in its habits holds an intermediate rank between the toad and frog; when full awake the body is white with green spots, in the heat of the sun entirely cinereous, when asleep the spots only are cinereous, and when torpid the body has a flesh-colour cast.

Head rounded; mouth without teeth; margin of the upper jaw doubled; tongue fleshy, thick, placed far back, the base obscurely bifid, very entire at the tip; upper eyelid hardly

any, lower folding; cavities of the ears white; parts resembling teats, very numerous on the groin; chin with prominent dots; colour, when preserved in spirits, yellowish ash, above pale olive; fore-feet 3-toed, beneath marginate, the thumb larger; second toe of the hind-feet very long.

B. Body more oblong, smooth; legs longer. Frogs.

Typhonia. Lobes of the ears oval.

Hurricane Frog.

Inhabits America, and is said to make a noisy croaking before hurricanes and whirlwinds.

Back with 4 longitudinal wrinkles, elevated points and black spots; hind-toes narrow, without claws, the second very long.

Pentadactyla. All the legs fasciate, 5-toed; body veined, the dorsal streak transverse, the lateral ones ocellate. *Mackrel Frog.*

2. Brown; fore-feet 4-toed with the rudiment of a fifth; hind-feet 5-toed with the rudiment of a sixth.

Ocellata. Ears with an ocellate spot; feet without claws, the hind-ones subpalmate. *Ocellate Frog.*

Inhabits America.

Pipiens. Green with numerous ocellate spots, surrounded with a yellowish ring. *Clamorous Frog.*

Inhabits running waters in North America; from the mouth to the end of the feet 5—6 inches long; during the spring, and especially by night, or on the approach of a storm, makes a continually clamorous noise; takes prodigious leaps.

Ears in the living animal of a shining golden colour; region of the anus wrinkled; the third fore-toe from the thumb longer than the rest; body resembling the esculent frog, hind-thighs longer; shanks longer still, and hind-feet longer than the fore-feet, marginate each side; toes connected nearly to the tip, the fourth longer than the rest.

Bicolor. Above blue, beneath ochre-colour. *Two-coloured Frog.*
Exceeds in size most of its tribe.

Maxima. All the feet palmate, and as well as the toes, fasciate; body veined, variegated; the top of the back obliquely spotted. *Great Frog.*

Bands of the legs in pairs, approximate, above confluent.

Alpina.

Alpina. Entirely black. *Alpine Frog.*
Inhabits the declivities of mountains in *Austria*.

Venulosa. Feet cleft; body veined with confluent spots. *Veined Frog.*
Inhabits *India* and *South America*.

Virginica. Cinereous spotted with red, beneath yellowish; back 5-angled, with 5 stripes. *Virginian Frog.*
Inhabits *Virginia*.

**Tempora-ria.* Back flattish, subangular. *Common Frog.*

*2. Above dirty-olive with large warty spots, the head above plain, beneath whitish; twice the size of the common frog.

Inhabits *Europe*, 2) and *Persia*; lives during spring in the water among toads, in summer on land, at which time it is silent; feeds on various insects, and is the prey of ducks and cranes; croaks when in muddy ditches, 2) by night with a voice like an angry man.

Fore-feet 4-toed, cleft; hind-feet 5-toed, palmate, the thumb longer.

Marginata Sides marginate; feet cleft. *Bordered Frog.*
Inhabits *India* and *South America*.

**Usculenta* Body angular; back transversely gibbous; belly marginate. *Esculent Frog.*

Inhabits fens and waters of *Europe*.

Body green with 3 yellow lines, the middle ones extending from the mouth to the anus; the male makes a continual croaking in an evening, especially before rain, with the angles of the mouth distended in a globular form; when irritated will pursue and destroy a pike.

Australica Body above brown, beneath blueish; sides speckled with ochre-colour; toes of the fore-feet spiny.

Australian Frog.

Inhabits *New Holland*; second toe of the hind-feet very long; claws red.

Paradoxa. Thighs obliquely streaked behind. *Paradoxical Frog.*
Inhabits

Inhabits *South America*. The tail of this animal in the tadpole state is very large, fleshy, two-edged, and has given rise to the opinion that it gradually became a fish, and afterwards changed to a frog; but like the rest of its tribe it gradually drops its branchial fins and tail, and arrives at its perfect frog-state.

Body pale yellow with ochre-colour spots; fore-feet 4-toed, not webbed, hind-feet 5-toed, palmate, with the rudiment of a sixth.

C. Hind-feet very long; claws lenticulate.

Arborea. Body green, beneath granulate; feet cleft. *Tree Frog.*

2. Fore-feet 4, hind-feet 5-toed; knees warty beneath.
3. Green with a straight yellow line each side.
4. Body reddish.
5. Body brownish-green.
6. Body very slender.

Inhabits *Europe, America*: lives under the foliage of trees, and adheres strongly to the leaves by means of a mucus upon its orbicular flattened claws; feeds on insects; frequently changes its colours; the male in breeding-time has an orbicular gular pouch, at which season and before storms it is much inflated.

Body above green, beneath whitish; on each side a yellow curved line.

Leucophylla. Body smooth, hoary, with oblong milk-white spots; fore-feet lobate, hind-feet palmate. *White-spotted Frog.*

Inhabits *America*: weighs 46 grains.

Eyes golden; between these, on the sides and middle of the back oblong white spots; haunches slender.

Squamigera. A scaly band reaching half way round upon the back; sides and throat with folds; fore-feet semipalmate, hind-feet palmate. *Scaly Frog.*

Inhabits *America*? above 2 inches long.

Body varied with grey and brown, in thick aggregate speckles and a few spots down the hind-part of the back, in a serpentine direction; the band consists of minute, subpellucid, rhomboid, imbricate scales; hind-limbs twice as long as the fore.

AMPHIBIA. REPTILES. 3. Draco. 4. Lacerta. 655

Beans. Body smooth with contiguous dots beneath; feet palmate.
Croaking Frog.

2. Body above blueish lead-colour.

3. Body inclining to orange.

Inhabits *America*; differs only from the tree frog in having all the feet webbed, and the body marked with white spots.

3. DRACO. Body 4-footed, tailed and winged.

Volans. Fore-legs distinct from the wings. *Flying Dragon.*

Inhabits *Africa* and *India*; is distinguished from the lizard tribe only in having a broad lateral membrane, strengthened by radii or bony processes; wanders about trees, and is able, by means of the membrane, to spring from bough to bough, and support itself a few moments in the air; feeds on insects.

Body ash-colour, varied and clouded with brown and whitish; and covered with minute scales; gular pouch large, pointed; tail very long, annulate with whitish-brown.

4. LACERTA. Body 4-footed, tailed, naked, long: legs equal.

This is an active, nimble tribe, and except the aquatic ones, feed on insects: the *crocodiles* have both jaws moveable, and the largest mouth of all animals: their body is covered with callosities: the *chameleons* have a prehensile tail; sit on trees; walk slowly and irregularly; have no teeth; eyes large, fixed in a wrinkled socket; tongue very long, worm-shaped, with which they draw in flies; head angular, covered with very thin lucid tubercles or scales.

A. Tail 2-edged, divided into segments; tongue very short.

Crocodilus. Head armed; nape carinate; tail above with 2 lateral crests. *Crocodile of the Nile.*

2. Snout much shorter than the head; nape naked.

Inhabits the *Nile*: 18—25 feet long; is of amazing swiftness, voracity and strength; smells of musk; roars hideously; devours men and other large animals, both aquatic and terrestrial.

trial; swallows stones to prevent hunger; overturns boats when taken in nets, and is not to be killed by a musket ball unless struck on the belly; is destroyed by tobacco; seldom moves but in a straight line, by which means it is easily avoided; the female lays her eggs in the sand which are hardly larger than those of a goose.

Eyelids wrinkled; *ears* linear, closed with a flap above; *teeth* in the upper jaw 40, lower 38, sharp; *fore-feet* 5-toed; *hind-feet* 4-toed, palmate.

Gangetica. Jaws long, round, subcylindric; tail above with two crests running into one. *Gangetic Crocodile.*

Inhabits the *Senegal* and *Ganges*.

Teeth in the upper jaw 60, lower 58, sharp; *ears* larger than the orbits, without a flap; *snout* nearly 3 times as long as the head; *nape* with 6 mamillary scales.

Alligator. Head flat, imbricate; nape naked; tail above with 2 rough lateral lines. *Alligator.*

Inhabits the middle parts of *America*; less than the crocodile but resembles it in habits and voracity.

B. Body covered with carinate scales.

Caudiverbera. Tail depressed, flat, wing-cleft; feet palmate.

Flat-tailed Lizard

Inhabits *Peru* and *Chili*; above 14 inches long.

Body black inclining to blue; *scales* very minute; *head* convex, oblong; *eyes* large, yellow; *nostrils* ample with a fleshy edge; *mouth* vast; *teeth* minute, hooked, in a double series; *tongue* thick, broad, red; *chin* with a dilatable pouch; *crest* running down the back from the front to the tip of the tail, undulate at the edge; *feet* 5-toed, with a cartilage instead of nails; *tail* spatulate at the edge.

Dracæna. Tail toothed above, long; toes subequal; body smooth. Inhabits *America*.

Body deep chestnut; *scales* very minute; *legs* tessellate with saffron and white.

Bimaculata. Tail carinate, toothed, twice as long as the body; all the toes lobate. *Pennsylvanian Lizard.*

Inhabits

Inhabits the woods of *St. Eustace* and *Pensylvania*, and lives in holes, gutters, and hollow trees; makes a hissing noise, and deposits its eggs in the earth.

Body greenish-blue, mostly spotted with black, the shoulders with 2 larger spots; feet all 5-toed.

Monitor. Tail carinate; body unarmed, with ocellate spots.

Monitor Lizard.

2. Green with red spots.
3. Tessellate grey and white.
4. Cinereous spotted with black; tail very thick.
5. Blue spotted with white.
6. With 6 longitudinal rows of spots on the back.
7. Sea-green with blackish ocellate spots.

Inhabits *America* and *Southern Asia*: about 3 feet long; frequently accompanies the crocodile and alligator, of whose approach it is said to give notice to other animals by its hissing.

Body verticillate with white ocellate spots, beneath white varied with broken linear bands.

Variegated. Tail long, carinate; body blackish, transversely variegated with yellow spots and marks. *Variegated Lizard.*

Inhabits *New Holland*; very much resembles the last, and is perhaps only a variety; about 15 inches long, tail longer; legs with rows of transverse, round spots; tail with broad, alternate black and yellow bars.

Bicarinate. Tail compressed, above bicarinate; back with 4 carinate streaks.

Inhabits *South American Islands* and *India*; very small.

Body grey; back with 2 elevated streaks, and each side with 2 scaly, carinate streaks, scales convex; belly with numerous transverse rows of scales; tail half as long again as the body, beneath streaked, smooth on the sides.

Denticulate. Tail verticillate, short, with denticulate scales; body smooth.

Inhabits *Africa* and *Asia*.

Body livid or blackish; tail with oblong cinereous scales.

C. Back and tail, or the whole body covered with denticulate or sharp-pointed scales.

Rhomboid. Tail verticillate, longish, with rhomboid scales.

Vol. I. — 4 P

Inhabits

Inhabits *Chili*; lives under ground; near a foot long, tail the same; the skin is made into pouches by the inhabitants.

Body above covered with minute scales varying with yellow, green, blue and black, beneath shining with green and yellow; feet 5-toed; claws strong.

St. Lio. Tail verticillate, moderate; head and body muricate. Inhabits the *East* and some parts of *Africa*; its dung collected near the pyramids in *Egypt* is used as a cosmetic.

Mauritania. Tail subverticillate, muricate, short, smooth at the tip; body above muricate; toes unarmed, lamellate beneath. *Moorish Lizard.*

2. Tail verticillate.

3. Body prickly.

Inhabits *Mauritania*, 2) *India*.

Body lurid; sides of the head, neck, back and thighs with mucronate protuberances, beneath smooth; scales minute; tail shorter than the body, from the base to the middle rough with 6 rows of spines, thence to the tip smooth; feet sublobate.

Azurea. Tail verticillate, short, with mucronate scales.

Azure Lizard.

2. A deep chestnut band on the shoulders.

Inhabits *Africa*, 2) *Brazil*: of a middle rank between this and the next subdivision.

Angulata. Tail hexagonal, long; scales carinate, mucronate.

Angular Lizard.

Inhabits *America*; of a small size.

Body above brown, beneath with scales not mucronate; under the throat are 2 large, rounded ones; head naked with various elevated wrinkles, behind, where the scales of the neck begin, as if truncate; tail very angular, half as long again as the body.

Orbicularis Tail round, middle sized; crown with 3 prickles; bell roundish. *Orbicular Lizard.*

2. Tail round, short; trunk subglobular, muricate above.

Inhabits warm parts of *America*, 2) *New Spain*.

Basiliscus.

Basiliscus. Tail round, long; dorsal fin radiate; hind-head crested.

Basilisk Lizard.

Inhabits *South America*: appears to be a middle animal between the lizard and dragon.

Hind-head covered by a hollow, scaly, conic, compressed membrane; *dorsal-fin* scaly, and which it can fold up or expand at pleasure when sitting on a tree.

Principia. Tail subcarinate; crest on the throat very entire; back smooth.

Inhabits *South America*; of an uncertain tribe.

Skin very thin; *tail* jointed, each joint consisting of 5 rings of very thin scales; the last joint but one of the *tail* broader.

Platana. Tail depressed, lanceolate, almost spiny on the edge; body rough, dusky-grey. *Broad-tailed Lizard.*

Inhabits *New Holland*; 4—5 inches long.

Head large; *body* above beset with small tubercles, which in some parts are lengthened into sharp points, beneath nearly white; *toes* warty.

D. Back ciliate, toothed, or crested; head covered with callosities.

Iguana. Tail round, long; dorsal future toothed; gular crest denticulate. *American Guana.*

Inhabits *India*, the warmer parts of *America* and its adjacent islands; 3—5 feet long; lives in rocky and woody places; feeds on insects and vegetables; is easily tamed and follows mankind like a dog; it is caught by a noose thrown over its head; the flesh is reckoned delicious, but does not agree with venereal persons; the general colour green, but variously tinged in various animals; has the power of inflating the gular pouch to a large size.

Calotes. Tail long, round; back on the fore-part and head on the hind-part toothed. *Asiatic Guana.*

2. Body above livid, beneath green.

3. Neck above covered with broad obtuse prickles.

Inhabits *Asia*, especially *Ceylon*.

Body blue; beneath striate with sharp scales; *spines* of the back lanceolate.

Supercili- Tail carinate; back and eyebrows ciliate with scales.
osa. *Fringed Lizard.*

Inhabits *South America* and *India*.

Head covered with erect scales; eyebrows higher than the head;
 crest reaching from the nape to the end of the tail, toothed.

Scutata. Tail subcompressed, moderately long; dorsal future tooth-
 ed; hind-head with 2 sharp-edged scales.

Shielded Lizard.

Inhabits *Asia*.

Amboinen- Tail compressed, long, with a radiate fin; dorsal future
sis. toothed. *Amboina Lizard.*

2. Tip of the tail square, (female) round; gular pouch
 compressed.

Inhabits *Amboina*, near the banks of rivers; 33 inches long;
 flesh very good.

Body spotted with white; head and collar greenish striate with
 white; back and tail brown; belly grey.

2) Inhabits *India*; 3 feet 8 inches long; head tetragonal, flat,
 tuberculated, with a convex round scale in the middle;
 jaws equal, with a single series of marginal unequal sharp
 teeth, 32 in each; tongue thick, compressed; neck com-
 pressed, dentate, as long as the head, with a lax skin covered
 with round scales; gular pouch compressed; trunk greenish
 spotted with black, beneath whitish covered with innume-
 rable rows of quadrangular scales; tail nearly 3 times as long
 as the body, angles covered with truncate carinate scales,
 doubly keeled on the back with 14 rays in the fin, angular
 beneath; feet 5-toed, cleft; claws acute, compressed.

Agama. Tail round, long; upper part of the neck and head prickly;
 hind-head with reversed scales.

2. Tail imbricate, with large scales.

Inhabits *America*; body pale, not striate beneath, scales sharp.

Umbra. Tail round, long; nape subcrested; hind-head callous;
 back striate. *Clouded Lizard.*

Inhabits southern parts of *America*.

Body clouded; scales keeled and daggered at the tip; head
 more obtuse and round than others of its tribe; callus on the
 hind-head large, naked; under the throat a deep fold.

Marmorata.

Marmorata. Tail round, long; throat subcrested, dentate on the fore-part; back smooth. *Marbled Lizard.*
Inhabits Spain and America.
Body compressed; tail streaked; claws black above.

Cristata. Tail lanced, short, pinnate; back crested; body porous, naked. *Crested Lizard.*
Body reddish-brown with lead-colour spots; crest reaching from the head to the tail, unequally dentate, subpellucid, in the middle of the back $\frac{1}{2}$ an inch high; head very thick, obtuse; snout broad; feet cleft, the fore-feet 4, hind-feet 5-toed; tail with a bordered membrane each side.

E. Body naked; feet unarmed; fore-feet 4-toed.

Americana Tail lanceolate, middle-sized; back fringed; belly spotted with yellow. *Fringed Lizard.*
Inhabits America; 4—5 inches long.
Head on the fore-part rounded; snout broad; body dusky-blueish, beneath yellow spotted with black, sides pale ochre; legs without blueish, within yellow; fringe extending from the head to the tip of the tail.

Palustris. Body blackish; sides speckled with white; belly orange with irregular black spots. *Warted Newt.*
Inhabits stagnant waters of Europe; less than the water newt.
Body above deep blackish-brown; tail each side with a broad silvery streak of a blueish cast; back of the male with a flattened crest irregularly serrate.

Lacustris. Black; tail lanceolate, middle-sized. *Fenny Newt.*
2. Much larger; spotted with black.
3. Variegated white and yellow, and spotted with black.
4. Tuberculate; chin speckled; belly spotted; tip of the tail red.
5. Tuberculate; belly saffron.
6. Head round; back black spotted with pale yellow.
7. Black with whitish bands.
8. Black; beneath dotted with white.

Inhabits lakes of Europe, 2) Martinico, 3) Ceylon; is very destructive to fish.

Aquatica. Tail roundish, middle-sized. *Water Newt.*
2. Brown.

2. Brown or yellowish.
3. Dorsal line dotted with white and black.

Inhabits *Europe*, 2) *France*, 3) *Germany*; lives in pools, ditches and stagnant waters, and is killed in 3 minutes if he be sprinkled upon it.

Body spongy, blackish dotted with black; chin rough; head subcrested; tail smooth, speckled with a longitudinal white stripe each side.

Salamandra. Tail round, short; body porous, variegated with black and yellow. *Salamander.*

2. Entirely black.
3. Brown.
4. White.
5. Small, brown; tail somewhat compressed..

Inhabits *Germany*, and many parts of *Europe*; exudes from its pores a milky liquor, by which it is for a small time defended from the action of fire, and has caused the ancient belief that it was inconsumable by fire, which it possesses in no greater degree than frogs, snails or many of its own tribe.

Strumosa. Tail round, long; breast gibbous, projecting forward. *Strumous Lizard.*

Inhabits warm parts of *America*.

Body pale ash spotted with brown; breast pale rosy; tail slightly banded.

F. Feet hardly armed, sublobate, 5-toed; body warty.

Vittata. Tail round, long; body brown with a white dorsal fillet, forked over the head. *Forked Lizard.*

Inhabits *India*: 6—9 inches long.

Body yellowish-brown, paler beneath, slightly warted; tail slender, cream-colour with longitudinal brown marks; feet transversely lamellate beneath.

Turcica. Tail subverticillate, middle-sized; body grey, a little warty. *Turkish Lizard.*

Inhabits the *East*: very small.

Body dusted with brown spots, unequal, and as if sprinkled with hardly visible warts; tail about the length of the body.

Rapicauda Tail turbinate; ears concave. *Turnip-tailed Lizard.*
Inhabits

Inhabits *American* islands.

Body white spotted with brown; warts small, thickly sprinkled; claws hollowed in the middle underneath.

Gecko. Tail round, middle-sized; toes a little clawed; ears concave.

Inhabits *India, Arabia, Egypt* and the warmer parts of *Europe*: frequents houses in summer, but is seldom seen in winter; makes a noise like a weasel; is tame, and when frightened will run into houses; emits a poisonous moisture from the lamellæ beneath its feet, which is sometimes smeared over articles of food it has run over, and causes a deadly colic; stands often erect on its hind-feet.

The greater warts are surrounded with lesser ones; tail sometimes naked, sometimes annulate with warts, conic or spindle-shaped.

G. G. Tail lanceolate, middle-sized; fore-feet 4-toed.

Inhabits the *Cape of Good Hope*: hardly 3 inches long; the moisture exuding from its pores is apt to produce dangerous gangreans.

Body variegated; beneath whitish; tail and feet like the salamander.

G. Feet 5-toed, some of the toes connected; tail round, short, incurved.

Chameleon Body cinereous; head flat.

Chameleon.

2. Body white.

3. Head very large.

Inhabits *India* and *New Spain*; lives chiefly in trees; the lungs are enormous, which the animal can inflate to a vast size; eyes so moveable that it can look, at the same time, in different directions, pupil shining golden; frequently changes its colour.

Africana. Black; head carinate. *African Lizard.*

Inhabits northern parts of *Africa* and *Spain*: in manners resembles the last; the protuberant parts all white.

Smila. Sides blueish with 2 yellowish lines. *Dwarf Lizard.*

Inhabits the *Cape of Good Hope*.

H. Collar

H. Collar double; abdominal scales square.

Ameiva. Tail verticillate; long; abdominal scales 30; collar beneath with a double wrinkle.

Inhabits America. Abdominal scales in 8 rows.

Tiliguerta. Tail verticillate; twice as long as the body; abdominal scales 80.

Inhabits Sardinia, the whole year, in fields and meadows; $7\frac{1}{2}$ inches long.

• *Agilis.* Tail verticillate, longish, with sharp scales; collar scaly beneath. Scaly Lizard.

2. Lowest scales of the collar loose; scutes of the middle series round.

3. Green lizard.

4. Skin very thin, brown.

4 Body with eye-like spots.

5. Brown; on each side a series of indistinct spots.

6. Sides brown; back tawny.

7. Blueish; each side a triple row of ocellate spots.

8. Green speckled with brown; collar tawny.

9. Blue; head white: back longitudinally striate; hind-legs spotted.

10. Blue; the sides speckled with white.

Inhabits Europe as far as the lake Baikal, 9) America: is innocent, active, elegant, living in dry meadows, walls and rocks.

Collar with 7 larger scales beneath; scales of the belly usually disposed in 6 rows; hind-thighs marked beneath with a line of callous dots; scales of the tail linear, parallel, acute, carinate.

Seps. Tail verticillate, long; lateral future reflected; scales square. Eft.

2. Variegated with chesnut; head varied with black and white.

3. Black-blue, marbled with confluent white bands mixed with round spots.

Inhabits Southern countries.

Body covered above and beneath with truncate scales in 8 rows, forming lateral and longitudinal streaks, belly flat; tail with about 50 whorls half as long again as the body; legs short, distant, formed for running.

Velas.

- Vidua.* Tail verticillate, longish; collar beneath scaly; body above cinereous, varied with 5 longitudinal paler streaks and brown dots; sides spotted with black and dotted with blueish. *Swift Lizard.*
Inhabits sultry desert places about the lake *Inderkien*: wanders among rocks, and is exceedingly swift; resembles the scaly lizard, but is much slenderer and less; *hind-legs* marked with round patches.
- Cruenta.* Tail verticillate, above cinereous, beneath scarlet with a whitish tip; fold of the neck beneath transverse. *Red-tailed Lizard.*
Inhabits about the salt lakes in southern *Siberia*: resembles the last in shape, but is 3 times as small and has a sharper head. *Body* brown with 7 white stripes on the neck, of which 4 reach to the tail, beneath white; *limbs* varied with round, milky spots; *thighs* without the line of callous dots.
- Arguta.* Tail verticillate, short, thickish at the base, very slender at the tip; collar with indistinct scales, and a double collar under the neck.
Inhabits dry sunny places on the southern parts of *Irtish*, and the sandy plains beyond; resembles the scaly lizard, but is shorter and thicker, with a sharp snout, and the dots on the thighs are fewer and indistinct. *Body* beneath white, above glaucous with thick transverse black subconfluent bands, very distinct at the base of the tail, each containing 4—5 ocellate dots of the colour of the body.
- Agira.* Tail verticillate, longish; body each side with 2 yellow lines. *Moorish Lizard.*
Inhabits *Mauritania*. *Body* hardly a finger long, above brown, beneath yellowish; back with sharper carinate scales, enclosed on each side by a yellow line which separates the sides from the belly.
- Iligugu.* Tail round, conic, middle-sized; toes 5 marginate, clawed. *Sardinian Lizard.*
Inhabits *Sardinia*: 8 inches long. *Body* thick, brown above variegated with numerous black dots, beneath whitish; *legs* very short, the hind-ones longer; *tail* 3½ inches long.

Uralensis. Tail round, longish; neck beneath folding; feet all 5-toed; back livid-ash, wrinkled and subwarted.

Ural Lizard.

Inhabits *Ural*: 4 inches long; very swift.

Head roundish; body whitish beneath.

Bullaris. Tail round, long; chin pouched. *Bladder Lizard.*

Inhabits *Jamaica*: small, green; gular pouch globular, red, retractile, which the animal when terrified is able to inflate.

Aurita. Tail round, middle-sized, with callous dots each side; gular fold transverse, almost double; angles of the mouth each side dilated into a semiorbicular soft, rough, dentate crest. *Eared Lizard.*

Inhabits the sandy hillocks of southern *Siberia* and gravel pits in the desert *Comani*; something larger than *L. gecko*; above waved with cinereous and yellowish, and thickly speckled with brown, beneath whitish; tip of the tail and blotch on the chest black.

Head blunt; crest in the living animal turgid with blood; parotids each side muricate; body bellying, depressed, and with the tail and legs rough with sharp dots; toes 5, clawed, the 3 middle ones ferrate, the inner with one notch, the 2 others with two.

Tequixin. Tail round, long; lateral future folded; neck beneath with a triple fold.

Inhabits *India* and *South America*.

Back and tail verticillate with crowded streaks.

Helioscopa. Tail imbricate, tapering; neck with a transverse fold beneath: head covered with callosities.

Star-gazing Lizard.

Inhabits in vast numbers the burning sand-hillocks of southern *Siberia*; moves very quick, but in a less serpentine direction than the scaly lizard; holds its head very erect with its eyes turned upwards; about 2 inches long.

Head very blunt, the lips and nostrils hardly projecting; eyebrows somewhat scaly; eyelids dotted, rough at the edge; neck as if bound round with a cord; hind-part as far as the shoulders rough with an oblique muricate tubercle, and often with a scarlet blotch; body short, above whitish-grey or cinereous dusted with brown or glaucous, beneath whitish; bellying.

bellying out at the sides, sprinkled with lesser warts above, beneath with acute lesser scales; *tail* with equal scales, the tip above brown, beneath carmine or pale.

Plica. Tail round, long; hind-head callous; eyebrows above excoriate; neck warty at the sides, folded beneath. Inhabits *South America* and *India*; hardly larger than a finger, and every where covered with conic scales. Eyebrows subcrenate with a membranaceous cicatrix above, transversely tripartite with a furrow; behind the ears, at the sides of the head and neck are 2 muricate warts; fold of the neck beneath double, with a wrinkle running above the arms each side and bending to the middle of the trunk; dorsal future on the fore-part as if crenate with larger scales; tail covered with very minute scales, indistinctly verticillate, twice as long as the body; toes long, beneath rough with sharp scales; claws compressed.

I. Collar or fold on the neck 0; body lineate or banded, scaly; tongue bifid.

Sexlineata. Tail verticillate, long; back with 6 white lines. *Six-lined Lizard.*

Inhabits *Carolina*: resembles *L. lemniscata*.

Back hoary with 3 narrow white lines and 3 black; under the neck 2 wrinkles; thighs with a row of callous dots behind; ranks between this subdivision and the last.

Quinquelineata. Tail round, middle-sized; back with 5 white lines. *Five-lined Lizard.*

Inhabits *Carolina*.

Head with 6 yellow lines, 2 between the eyes, 1 each side above and 1 each side below the eyes; back blackish, with lines reaching to the middle of the tail; tail half as long again as the body; belly streaked imbricately.

Nilotica. Tail long, the outer side triangular; body smooth; back with 4 lines of scales. *Nilotic Lizard.*
Inhabits *Egypt*.

Interpunctata. Tail round, long; back with 2 yellow lines, interspersed with black dots. *Asiatic Lizard.*

4 Q 2

Inhabits

Inhabits *Asia*; very small.

Back included in 2 lines, and distinct from the sides; in the area are 6 longitudinal rows of brown dots, and as many on each side; *legs* and *tail* dotted in the same manner.

Lemniscata. Tail round, long; back with 8 whitish lines.

Eight-lined Lizard.

Inhabits *Guinea*. Thighs dotted with white.

Fasciata. Tail round, longish, blue; back with 5 yellowish lines.

Blue-tailed Lizard.

Inhabits *Carolina*.

•*Vulgaris*. Tail round, middle-sized; feet clawed; fore-feet 4-toed; back with a double brown line.

Brown Lizard.

Inhabits *Europe*: 3 inches long.

Tail small, round, slightly compressed; *body* above pale brown with a narrow black line each side the back reaching to the end of the tail; *belly* pale yellow with small dusky spots.

Japonica. Tail round, long; feet clawed; fore-feet 4-toed; back banded.

Japanese Lizard.

Inhabits *Japan*.

Body beneath yellow, above livid with a dentate broad yellow band from the hind-head to the tip of the tail; *eyes* small; *eyebrows* large rough; *claws* black; *tail* a little compressed at the tip.

Deserti. Tail round, longish; feet 5-toed; body above black with 6 white longitudinal lines.

Ural Lizard.

Inhabits the desert of *Ural*; above 2 inches long.

Body beneath white; lines of the back consisting of oblong spots, and between each outer line and the next are 5 white dots.

Quadrilineata. Tail round, long; feet somewhat clawed; hind-feet 4-toed; body with 4 yellow lines.

Four-lined Lizard.

Inhabits *North America*?

Punctata. Tail round, middle-sized; feet unarmed; fore-feet 4-toed; back longitudinally dotted with white.

Dotted Lizard.

Inhabits

Inhabits *Carolina*.

Body brown with a double row of white spots on the back and a single one on the tail.

Sputator. Tail round, middle-sized, with a longitudinal row of scales beneath; feet unarmed, 5-toed; body cinereous with white bands above, before and behind edged with liver-colour.

Spitting Lizard.

Inhabits *South America*, in houses and among old walls; when irritated discharges a black acrid matter, which is cured by camphor or spirits of wine; 2 inches long.

The whole animal, except the very tips of the jaws and the lower surface of the tail, covered with minute truncate scales; tongue round, a little notched at the tip; tail near the end, and legs spotted with brown.

K. Belly covered with imbricate scales; tongue entire.

Sepiformis. Tail short; body greenish-black; head armed; back flat; hind-thighs on the hinder-part covered with callous dots.

Scincus. Tail round, middle-sized, compressed at the tip; toes unarmed, marginate.

Scink.

2. Tail very long; toes round.

Inhabits *Lybia*, *Egypt*, and the rocky parts of *Arabia*; was formerly kept in the shops as an aphrodisiac.

The whole body with the head and tail covered with imbricate scales.

Scincoides. Tail round, middle-sized; legs short; toes very short.

Scincoid Lizard.

Inhabits *New Holland*: about 18 inches long.

This is made a distinct species on the authority of Dr. SHAW. *Naturalist's Miscel. pl. 179*.

Body pale yellowish-brown with a long patch of deep brown or blackish each side the neck; sides tinged with the same colour; tail deeper than the sides; teeth somewhat obtuse, short.

Ocellata. Tail round, short; body beneath white, above greenish-grey with roundish ocellate spots, brown on the margin, rectangular and white on the disk.

Ocellate Lizard.

Inhabits

Inhabits *Egypt*; is very beautiful, and about a span long.
Body depressed; *legs* short, 5-toed, without warts.

Aurata. Tail round, longish; scales round, smooth; sides brownish. *Golden Lizard.*

Inhabits the island of *Jersey*: when alive is of a beautiful golden colour which vanishes when dead.

Body round, appearing as if it was fat; *ears* concave.

Guttata. Tail round, long, the tip and 4 transverse spots black; body above hoary dotted with white, beneath whitish.

Inhabits the desert of *Ural*; above 3 inches long.

Body smooth above; *feet* 5-toed, with claws.

L. *Crawling on the belly*; resembling both the lizard and serpent.

Chalcides. Tail round, long; feet 5-toed; legs very short.
 Inhabits southern *Europe* and *Africa*.

Serpens. Head, body and tail a continued cylinder; legs very minute, remote, 5-toed, and clawed. *Serpent Lizard.*
 Inhabits *Java*: 4—5½ inches long; in shape is very much like a serpent, but more conical; *body* above with 14—20 brown, longitudinal stripes, beneath silvery, or above chestnut, beneath cinereous; it has an auditory canal.

Anguina. Tail verticillate, stiffish at the extremity; body striate; feet without toes, subulate. *Snake Lizard.*

Inhabits muddy places near the *Cape of Good Hope*.

Head somewhat depressed; *ears* transverse; *body* round, very long, verticillate, the scales each side longitudinally furrowed; *vent* transverse; *tail* twice as long as the body, very sharp at the tip; *legs* 6, the foremost slenderer, covered with sharpish scales.

Lumbrico. Body subequal, round, ferruginous, tessellate with square streaks, beneath paler; hind-feet 0; fore-feet short, 4-toed. *Lumbriciform Lizard.*

Inhabits

Inhabits *Mexico*; 6—8 inches long.

Body each side with a longitudinal line dividing the upper from the lower part; *scales* of a lengthened, square form; *head* covered by large scaly plates; *eyes* minute.

Bipes.

Body subequal, round, pale, imbricate; each scale with a brown dot; fore-feet 0; hind-feet 2-toed, unarmed.

Biped Lizard.

Inhabits *South America* and *India*: abdominal scales 100, subcaudal 60.

Apus.

Head, body and tail a continued imbricate pale cylinder; fore-feet 0; hind-feet hardly any, subdidactylous.

Cylindrical Lizard.

Inhabits the grassy meadows of the deserts of southern *Siberia*, and near the rivers *Sarpa*, *Cuma* and *Terek*; in general appearance resembles a snake, but in internal structure the lizard.

Scales disposed in an annular form; *tail* fragile, many-angled, much longer than the body; the scales sharply keeled.

5. SIREN. *Body* 2-footed, tailed, naked: *feet* placed in the manner of arms, and furnished with claws.

Lacertina. *Body* ell-shaped; branchiæ ramified.

Inhabits muddy and swampy places in *South Carolina*: lives generally under water, but sometimes appears on land; feeds on serpents, which it holds firmly between its jaws; is sometimes a foot and half long; is of a singular structure, between the amphibious and fish tribe, being furnished with external gills like the latter, and feet like the former; has a sort of squeaking or singing voice; when thrown on the ground breaks in pieces like some of the serpents.

Body compressed, long, brown, speckled with whitish; *feet* 4-toed; *gill-membranes* 3 each side, toothed or feathered; *tail* bony.

ORDER

ORDER II. SERPENTS.

Mouth breathing by the lungs only : body tapering, neck not distinct ; jaws dilatable, not articulate : feet, fins, ears 0 : motion undulatory.

6. CROTALUS. *Plates on the belly : plates and scales under the tail : tail terminated by a rattle. Rattle Snake.*

The whole of this genus is furnished with poisonous fangs ; they seldom bite unless when irritated, or for the purpose of securing their prey ; and the fascinating power which has been attributed to them is probably nothing more than that they first bite the animal and patiently watch till it dies to devour it. The rattle is composed of hollow, horny, brownish joints, which increase every year as far as 40, and give notice of the animal's approach ; head broad, covered with large carinate scales ; beak rounded, obtuse.

Miliarius. Plate of the belly 13 ; of the tail 31.

♂

Inhabits *Carolina*.

Cinereous with a triple longitudinal row of black spots ; a red spot between the dorsal ones.

Horridus. Plates of the belly 167 ; of the tail 23.

♂

Inhabits *America* : the most venomous of the serpent tribe ; grows to near 6 feet long, and as thick as a man's arm ; is eaten by swine without injury ; preys on birds and the smaller quadrupeds ; body covered with triangular brown spots.

Dryinas. Plates of the belly 165 ; of the tail 30.

♂

Inhabits *America*. Whitish with yellowish spots.

Durissus. Plates of the belly 172 ; of the tail 21.

♂

2. Plates

2. Plates of the belly 174; of the tail 22.

3. Plates of the belly 163—170; of the tail 20—29.

Inhabits *America*; from $1\frac{1}{2}$ to $4\frac{1}{2}$ feet long; *body* mixed white and yellow with black rhombic spots, white on the disk, 3) with 2 black bands on the head and neck; is generally found under the trunks of fallen trees.

Mutus. Plates of the body 217; of the tail 34.

♂

Inhabits *Surinam*; is very large and has vast fangs; *back* with black rhombic concatenate spots; a black line behind the eyes; instead of a *rattle* is a quadruple row of very minute sharp scales; is probably not of this genus.

7. BOA. Plates on the belly; plates under the tail; without a rattle.

A. Head imbricate; with scales.

Contortrix Plates of the belly 150; of the tail 40.

Inhabits *Carolina*; broad, back convex, cinereous with lateral round spots; has the poisonous bag, but not the fangs; *tail* half the length of the whole body.

Anina. Plates of the belly 203; of the tail 77.

Inhabits *America*; frequently rolls itself round trees; *body* green with transverse white bands which are narrow, on the back only, and somewhat broken near the middle; *belly* white; is 4 feet long, and about as thick as the small of the arm.

ipnale. Plates of the belly 179; of the tail 120.

Inhabits *Siam*.

Yellowish with white ocellate spots on the back.

nstrictor Plates of the belly about 240; of the tail 60.

Inhabits *India*; and warm parts of *America*. Beautifully variegated with rhombic spots; *belly* whitish; is of vast strength and size, measuring sometimes 12 yards long, and by twisting itself round the bodies of deer, leopards and other larger quadrupeds, breaks the bones, and after covering them over with a slimy mucus gradually swallows them.

- Cenchris.* Plates of the belly 265 ; of the tail 57.
Inhabits *Surinam*.
Greenish, with whitish ocelate spots ; *irids* grey.
- Oprias.* Plates of the belly 281 ; of the tail 84.
Body brown ; resembles the constrictor in appearance.
- Enydria.* Plates of the belly 270 ; of the tail 105.
Inhabits *America*. Grey variegated ; lower teeth long.
- Murina.* Plates of the belly 254 ; of the tail about 65.
Inhabits *America*. Glaucous with round black spots.
- Scytale.* Plates of the belly 250 ; of the tail 70.
Inhabits *America* ; is eaten by the natives ; preys on frogs, lizards, and sometimes twists round and destroys sheep, goats and young deer.
Body ashy-glaucous, with round black spots on the back ; the lateral ones black, annulate, with a white disk ; the ventral ones oblong.
- Hortulana* Plates of the belly 290 ; of the tail 128.
Inhabits *America*.
Pale, with livid, wedged spots ; *head* with yellow blotches something resembling a flower-pot.

8. COLUBER. Plates on the belly : *scales* under the tail. *Viper.*

- Vipera.* Plates of the belly 118 ; scales of the tail 20.
♂ Inhabits *Egypt* : was formerly much esteemed in medicine ; the broad, alternate scales of the tail are always reckoned by pairs.
Body shining, very short, pale, with brown spots ; *scales* flat, lying close together ; *head* gibbous, with minute imbricate scales ; eyes seated on the top.
- Variegatus* Above tawny, variegated with grey and white ; beneath and on the sides pale yellow.
Inhabits *America* : in shape resembles the last.

Viper.

- Venosus.* Body tawny-ash with white transverse veins.
Inhabits *America*: resembles *C. vipera*.
- Intestinalis* Body equal, slender, with a lateral and dorsal longitudinal line, the latter forked near the eyes.
Inhabits *Africa*; is probably only a variety of *C. vipera*.
- Lachesis.* ♂ Head indistinct; a black transverse band above the eyes.
Like the two next, shakes its scales when about to spring on its prey, and gives notice of its approach by a crackling kind of noise.
Head in this, as well as the 2 next, imbricate with scales; eyes seated on the top of the head; *plates* and *scales* lax, carinate and moveable, which makes the colour of the body changeable; they are large, rounded, white at the edge, some thicker, blackish, and a few cinereous.
- Clotho.* ♂ Head indistinct; keel of the scales on the chin with a white spot; tail very slender.
Inhabits *Ceylon* and *Cuba*.
Plates and *scales* large, rounded, brown, a few of them yellow.
- Atropos.* ♂ Plates of the belly 131; scales of the tail 22.
Inhabits *America*.
Hoary with a quadruple row of brown eye-like spots with a white iris.
Head hearted, gibbous, with 4 or more black spots; *scales* lanceolate.
- Nasicornis.* ♂ Plates of the belly 127; scales of the tail about 32.
Inhabits the interior parts of *Africa*; about 35 inches long. Olive-brown freckled with blackish, with a row of pale dorsal spots surrounded by black, and a flexous pale band on the sides; *belly* pale olive with dusky spots.
Head with 2 large sharp horns on the top of the nose, inclining a little backward, somewhat flexible, and nearly triangular, about half an inch long; at the base of each an upright, strong scale, nearly the shape of the horn itself; *fangs* large, long; *scales* harsh, stiff, strongly serrate.
- Leberis.* ♂ Plates of the belly 110; scales of the tail 50.
Inhabits *Canada*. Linear streaked with black.

- Lutrix.* Plates of the belly 134; scales of the tail 27.
Inhabits *South America* and *India*. Yellow with blueish sides.
- Calamarius.* Plates of the belly 140; scales of the tail 22.
Inhabits *America*. Livid with linear brown streaks and dots, beneath tessellate with brown.
- Dubius.* Plates of the belly 141; scales of the tail 24.
- Simus.* Plates of the belly 124; scales of the tail 46.
Inhabits *Carolina*. Above variegated with white and black, and appearing as if banded with white, beneath black. Head roundish, gibbous; between the eyes a black curved filament; nose blunt; crown with a whitish cross, marked with a black dot in the middle.
- Striatulus.* Plates of the belly 126; scales of the tail 45.
Inhabits *Carolina*. Small; brown, streaked above, pale beneath; head smooth.
- Ammodytes* ♂ Plates of the belly 142; scales of the tail 32.
Inhabits the *East*, and mountainous parts of *Illyria*; sometimes brown, sometimes pale blueish, with a black dorsal band, toothed, the teeth standing backwards; nose terminated by an erect wart.
- Cerastes.* ♂ Plates of the belly 150; scales of the tail 25.
Inhabits the *East*, 12—15 inches long. Rusty brown with darker spots; belly blueish; springs suddenly to a considerable distance, and bites without provocation those who approach it. According to the testimony of respectable travellers, the natives of the countries infested by these animals, have a method of charming or stupifying these and other noxious serpents, by means of certain preparations, as to secure the person so prepared from being bitten, however irritated the animal may be.
Scales of the head small, rounded; above the eyes a pair of horns or curved processes pointing forwards.
- Versicolor.* Plates of the belly 136; scales of the tail 39.
Variegated with ferruginous, blue and white.
- Melanis.* ♂ Plates of the belly 148; scales of the tail 27.
Inhabits

Inhabits swampy and filthy places near the *Volga* and *Samara* :
of the size and appearance of *C. berus*.

Irids brown ; *pupils* lanceolate vertically with a silvery edge ;
body black, opaque, beneath polished, with darker spots ;
on the *sides*, and towards the *chin*, waved with blueish ; *tail*
short, conic.

Exalbidus. Plates of the belly 135 ; scales of the tail 42.

Whitish with transverse very broad spots, mixed black and
white.

Plicatilis. Plates of the belly 131 ; scales of the tail 46.

Inhabits the *South America* islands. Livid, beneath with a
quadruple row of brown dots ; *sides* with brown coherent
spots, those on the fore-part ocellate with a white pupil.

Head covered with broad scales, roundish oval, each side taper-
ing ; *mouth* rounded ; *snout* obtuse ; *trunk* like *C. natrix*,
but more thick and stout ; *tail* thick, rather blunt.

Nova His-pania. Black above, white beneath ; back with oblique streaks ;
hind-parts with oblique bands.

Inhabits *New Spain* ; head, trunk and tail like *C. plicatilis*.

Coronatus. Deep black, with white, unequal spots and dots.

Inhabits *New Spain* ; resembles the last.

Domicella. Plates of the belly 118 ; scales of the tail 60.

Inhabits *Asia*. White with blackish bands, uniting beneath.

Albidus. Plates of the belly 121 ; scales of the tail 58.

Inhabits *South America* and *India*. Entirely white.

Unclatus. Plates of the belly 136 ; scales of the tail 43.

Inhabits *Carolina*. Cinereous, beneath as far as the tip of the
tail pale yellow with a triple row of black dots disposed in
threes.

Laccatus. Plates of the belly 107 ; scales of the tail 72.

♂ Inhabits *South America* and *India*. White ; triangular spot
above the nostrils, 2 dots on the crown, 2 very broad spots
on the back, which fill nearly the whole surface, all brown.

Head

Head broad, triangular, the hind-part widened out, depressed, compressed at the sides, the fore-part covered with plates, of which the 3 near the eyes are largest, the hind-part imbricate with scales; *jaw* on the hind-part each side protuberant; *trunk* like *C. natrix*.

Elegantissimus. ♂ White: front with a red cross: back with a triple row of ocellate spots: sides with a single row of red spots.

Cross on the *front* sprinkled round with red spots; the middle row of those on the *back* very slender; in other respects resembles the last.

Javanus. ♂ White with a transverse tawny-brown spot before the eyes and a white one above the eyes: a longitudinal stripe from the crown through the fore-part of the back, middle and hind-part of the back with rhomboid spots which are whitish in the middle.

Inhabits *Java*: bears a great resemblance to *C. buccatus*.

Ignobilis. ♂ Cinereous-yellow with roundish spots on the back, and a series of dots each side, running together into a band.

Inhabits *America*; resembles the last.

Nexa. ♂ Tawny with a double angular band on the back, the angles crossing each other.

Inhabits *Africa*; much like *C. buccatus*.

**Berus.* ♂ Plates of the belly 146: scales of the tail 39.

Inhabits *Europe* and *Siberia*; lives in woods and thickets, and in breeding-time in the open fields; is poisonous, but not deadly; grows to $1\frac{1}{2}$ foot long; was formerly much in repute as a restorative.

Body cinereous, or (which is probably the male) tawny-brown, or blackish; a dark indented stripe along the middle of the back, or dark-brown; *belly* tinged with purple, spotted with black; *throat* pale; *irids* orange; *pupil* black.

2. Spots on the top of the back roundish, almost running into a stripe: those near the end of the tail transverse.

Inhabits *India*.

3. Tawnyish: head variegated: neck slender.

Inhabits *St. Eustace*.

4. Arch

4. Arch of the hind-head intercepting a white spot.

Inhabits *India*.

5. Spot on the head many parted.

Inhabits the *Celebes*.

Leucomelas Plates of the belly 135: scales of the tail 48.

White with black spots.

Chersea. ♂ Plates of the belly 150: scales of the tail 34.

Inhabits low shrubby places in *Sweden*; is something like the *berus*, but more speedily fatal, if the place bitten be not instantly extirpated; $9\frac{1}{2}$ inches long; *body* less than the *berus* and much deeper bay; along the *back* a dark indented line; *head* oval; *trunk* round.

Seytha. ♂ Plates of the belly 153; scales of the tail 31.

Inhabits woods in the mountainous parts of *Siberia*; half a foot long, and about as thick as a finger; not very poisonous; above deep black, opaque, beneath polished, milk-white; *head* somewhat hearted.

**Prester*. ♂ Plates of the belly 153; scales of the tail 32.

Inhabits northern *Asia* and *Europe* as far as *Austria*, in which latter place it is not venomous. Totally black without spots; *scales* lanceolate with a longitudinal ridge; *lips* varied with black and white dots.

Redi. ♂ Plates of the belly 152: scales of the tail 33.

Inhabits *Austria* and *Italy*, near the sea. The whole *head* imbricate with very minute scales; *body* with alternate, transverse, short streaks, disposed in 4 longitudinal rows, the middle ones on the fore-part confluent, beneath tawny. Its bite is speedily fatal.

Cobra. Entirely brown, compressed: back carinate, scales of the ridge larger: head elongate, roundish.

Maculatus Cinereous with spots edged with brown and pale yellow on the disk.

Head compressed, white at the sides, above cinereous with a brownish line running each side before the nostrils; *hind-head* with 2 triangular spots; *back* with a triple row of elliptic spots, larger in the middle.

Glaucus.

Glaucus. Blueish-white, waved on each side with large obtuse spots; a white band each side behind the eyes, which on the nape is ferruginous.

Inhabits *Martinico*: resembles *C. redi*; band behind the eyes terminated above by a white line, beneath by a black one.

Maderensis Reticulate with pale yellowish lines, the spaces between plumbeous.

Inhabits *Madras*.

Bitis. Variegated above with cinereous, yellow, white and red, with transverse brown bands, beneath yellow with a middle row of very minute white scales.

Inhabits *Brazil*: much like *C. redi*.

Aconita. Above copper-tawny with carinate whitish scales, beneath pale yellow, spotted with red.

Inhabits among the trees in the *Island Santa Cruz*.

Angulatus. Plates of the belly 117; scales of the tail 70.

Inhabits *Asia*; above 2 feet long; brown or brownish, with black or blackish lanceolate, broad, transverse bands.

Ceruleus. Plates of the belly 165; scales of the tail 24.

Inhabits *America*. Blueish, the scales white on the inner side, beneath white.

Albus. Plates of the belly 170; scales of the tail 190.

Inhabits *South America* and *India*. White, without spots.

Aspis. ♂ Plates of the belly 146; scales of the tail 46.

Inhabits *Dauphiny*, *Lions*, and *Poitiers*: larger than *C. cherka*, and is perhaps a variety of the *berus*.

Nose terminated by an erect wart; body tawny with figured streaks, alternately distinct and confluent, beneath steel-blue, dotted with yellow.

Typhlus. Plates of the belly 140; scales of the tail 53.

Inhabits *South America* and *India*. Blueish; $2\frac{1}{2}$ feet long.

Fasciatus. Plates of the belly 128; scales of the tail 67.

Inhabits

Inhabits *Carolina*. Body with pale white bands, which on the sides are bifid; *scales* carinate; *belly* with as many obscure bands as there are plates.

ufus. Plates of the belly 149; scales of the tail 43.
Brownish; the sides spotted with black.

otalinus. Plates of the belly 154; scales of the tail 43.
Large; cinereous, with large blackish alternate spots; beneath yellowish sprinkled with brown; *head* hearted; *eyebrows* standing forwards.

alys. Plates of the belly 164; scales of the tail 34.
Inhabits, though rarely, in the driest parts of the deserts of *Astracan*; thicker and shorter than the *berus*; above pale grey, with transverse olive-brown spots, which are less towards the thighs; beneath paler; *scales* crowded, sub-carinate.

Rufescens. Plates of the belly 159; scales of the tail 42.
Body tawnyish-white.

Lebetinus. Plates of the belly 155; scales of the tail 46.
♂ Inhabits the *East*; destroys the person bitten by causing an unconquerable and deadly sleep; about $1\frac{1}{2}$ foot long; beneath whitish varied with thick black or brown dots; above grey, with 4 rows of transverse alternate spots, the middle ones yellowish, the side ones brown or blackish; *scales* of the back obtuse-oval, flat, carinate in the middle with an elevated ridge; *head* broad, depressed, somewhat hearted; *tail* 4 inches long.

Melanoccephalus. Plates of the belly 140; scales of the tail 62.
Inhabits *America*: about 17 inches long; very smooth; above brownish, beneath whitish; *head* and dorsal band behind the head darkest brown; sometimes varies in having plates under the tail.

Panamenfis. Plates of the belly 164; scales of the tail 38.
Inhabits *Panama*. Blueish, with marginate scales.

Trafficandus. Plates of the belly 142; scales of the tail 60.
Inhabits *Africa*. Blue; tail very thick.

- Nævus.* Plates of the belly 153; scales of the tail 50.
White, with black lines and spots.
- Cobella.* Plates of the belly 150; scales of the tail 54.
Very common in *America*; from 8 inches to 2 feet 9 inches long; head broad, with an oblique lead-colour line behind each eye; tail striate from the origin, obtuse at the tip; body black or brown, with white or pale lines; lateral scales white on the disk, brown on the edge; varies much in the disposition of its colours.
- Purpurans* Plates of the belly 144; scales of the tail 72.
Purplish, with black spots.
- Regina.* Plates of the belly 137; scales of the tail 70.
Inhabits *South America* and *India*; above violet-brown; chin and tail beneath white; abdominal scales alternately white and half-blackish.
- Doliatus.* Plates of the belly 164; scales of the tail 43.
Inhabits *Carolina*. Whitish, with black rings disposed in pairs, but not quite surrounding the body on the belly; very small.
- Ordinatus.* Plates of the belly 138; scales of the tail 72.
Inhabits *Carolina*: small; blueish, waved with black spots; the sides with a row of black dots.
- Coccineus.* Plates of the belly 175; scales of the 35.
Inhabits *Florida* and *New Spain*; a yard long, and about as thick as the little finger.
Head small; face scarlet; eyebrows black; front yellow; back with 23 scarlet spots, transversely oval, or obtusely square, black at the edges, and separated by yellow lines spotted with black; belly whitish.
- Mexicanus* Plates of the belly 134; scales of the tail 77.
Inhabits *America*.
- Severus.* Plates of the belly 170; scales of the tail 42.
♂ Inhabits *Asia*: 4 feet long and upwards; cinereous, with as many as 10 white bands, converging on the back, and transverse blackish streaks; beneath whitish with a few bands, sometimes brown above, with transverse narrow cinereous bands;

bands; beneath pale, and spotted with brown on the tail; hind-head brown, with a brown band between and another behind the eyes.

- Aurora.* Plates of the belly 179; scales of the tail 37.
Inhabits *America*; livid, with a yellow back; tail and neck thickish.
- Sipedon.* Plates of the belly 144; scales of the tail 73.
Inhabits *North America*. Brown.
- Maurus.* Plates of the belly 152; scales of the tail 66.
Inhabits *Algiers*? Body above brown, with 2 dorsal lines, beneath black; from the dorsal lines to the belly, on each side are many black bands.
- Stolatus.* ♂ Plates of the belly 143; scales of the tail 76.
Inhabits *Asia*. Grey, with 2 white fillets on the back, and obscure brown bands; head blueish; abdominal plates marked on each side with a black dot.
- Vittatus.* Plates of the belly 142; scales of the tail 78.
Inhabits *America*. Back whitish, with longitudinal black lines; on the hind-head, each side, a broad black spot surrounded by a white line, from which on each side begins a whitish band which runs along the whole body; under the tail a white indented band; plates brown at the edge.
- Miliaris.* Plates of the belly 162; scales of the tail 59.
Inhabits *South America* and *India*: beneath white; above brown; scales marked with a white spot.
- Picatus.* Plates of the belly 186; scales of the tail 36.
Inhabits *India*? White, with black bands uniting here and there, and a continued narrow black stripe beneath. Very much resembles *C. domicella*, and is probably the same, or a variety.
- Esculapi.* ^{us.} Plates of the belly 180; scales of the tail 43.
Inhabits *South America* and *India*. White with black rings; about 18 inches long; head broad, with a double black band; body brown above, whitish beneath; bands white and black, the latter divided by a white line or ring; tail tapering, blunt at the tip.
- 4 S 2
- Bipes.*

- Bipes.* Plates of the belly 116 ; scales of the tail 58.
Inhabits in the waters of the *Tyrolese* country ; feeds on frogs and fish ; has 2 feet ; eyes tawny ; lower jaw whitish ; dorsal scales elliptic, marginate ; sides spotted with white ; plates of the belly whitish, with a brown spot in the middle.
- Rhomboideus.* Plates of the belly 157 ; scales of the tail 70.
Inhabits *South America* and *India*. Blueish-white reticulate with black, and a triple row of subrhomboid spots, blue in the middle.
- Ruffelii.* ♂ Plates of the belly 161 ; scales of the tail 59.
Inhabits *India*. Pale yellowish-brown, marked the whole length of the back with a continued chain of long-oval deep brown spots, with paler middles and narrow white edges ; beneath white with a few dusky spots ; is exceedingly poisonous.
- Cyaneus.* Plates of the belly 119 ; scales of the tail 110.
Inhabits *America*. Deep blue ; beneath greenish.
- *Natrix.* Plates of the belly 170 ; scales of the tail 60.
Inhabits *Europe* ; lives usually in hedges, shrubberies, or in old buildings ; is fond of sun-shine and heat ; deposits its eggs in dung-heaps or under rotten trees, which are connected in a mass by means of a mucus ; 3 feet 9 inches long.
Body above blackish, with a white spot each side the neck ; back subcarinate ; scales of the back oblong-oval, carinate in the middle, disposed in 19 rows ; beneath white, sometimes yellowish or brownish, with a longitudinal irregular broad black stripe down the middle, beginning at the 15th plate ; snout acute.
2. Blackish-brown, with a few yellowish spots ; beneath cinereous.
 3. Head on the fore-part variegated ; a short black band between the eyes, a very long one on the hind-head ; nape with 2 larger spots, which are succeeded by lesser ones and continued down the back, yellow in the centre, and confused at the extremity.
 4. Hind-head with a flame-coloured spot and blotches.
 5. Blue, with black spots and transverse waved lines.
 6. Blue, with a white line each side, sprinkled with black spots ; belly white, with a black spot each side.

Gronow.

- Gronovianus*. Blueish-ash, beneath blackish; a white arched spot each side the hind-head, and one black; back waved with black.
Resembles in appearance the last.
- Lubricus*. Very slender, shining, smooth, white with black bands.
2. With red bands.
Inhabits *Surinam*, 2) *Africa*: resembles *C. natrix*.
- Humanus*. Black spotted with white; tail alternately striped with white and black.
Inhabits *Amboina* and *New Spain*: is often domesticated.
- Punctulatus*. Brown with minute white spots.
Head covered with broad plates, depressed, triangular by means of the jaws being widened out behind; snout sharper than *C. natrix*; trunk smooth, shining, narrower behind the head, very thick in the middle; tail conic, long, tapering.
- Varius*. Plates of the belly 160; scales of the tail 70.
Blackish; sides variegated with white and black.
- Tyrolensis*. Plates of the belly 178; scales of the tail 60.
Inhabits the *Tyrolese* country. Deposits its eggs among stones, which are white, leathery, with a lateral yolk and turbid watery white, about 14 in number, and sticking together.
- Arabicus*. Plates of the belly 174; scales of the tail 60.
Inhabits *Arabia*. Brown; belly blackish.
- Agilis*. Plates of the belly 184; scales of the tail 50.
Inhabits *Ceylon*. Varied with alternate white and black bands, and dotted with black; head small.
- Lævus*. ♂ Plates of the belly 203; scales of the tail 32.
Inhabits *South America* and *India*. White with 2 black spots; crown black; a white line running down the body.
- Jaculatrix*. Plates of the belly 163; scales of the tail 77.
Inhabits *Surinam*. Blueish-ash with longitudinal black lines.
- Sentatus*. Plates of the belly 190; scales of the tail 50.
Inhabits the river *Ural*; lives chiefly in the water, but comes occasionally

occasionally on land; resembles *C. natrix*, and is often 4 feet long; black; abdominal plates black, every other pair ochre-colour at one end or the other.

Teeth exerted, needle-like; in a double comb on the palate; *irids* brown; *tail* very obscurely triangular; *scales* every other one white.

Subalbidus Plates of the belly 165; scales of the tail 75.

Inhabits *America*. Whitish, with 30 brown bands; *snout* rounded, obtuse.

Atratus. Plates of the belly 163; scales of the tail 77.

Body with a black band.

Porphyriacus. Plates of the belly 188, of the anus 7; scales of the tail 45.

Violet-black; *belly* and *sides* crimson; *plates* edged with black; *scales* lead-colour.

Unicolor. Plates of the belly 176; scales of the tail 66.

Back uniform; *sides* lineate as far as the vent; *snout* sharp.

Aulicus. Plates of the belly 184; scales of the tail 60.

Inhabits *America*. Grey, with numerous linear white bands, which are forked at the sides; *hind-head* each side with a triangular white spot, which nearly meet on the nape.

Monilis. Plates of the belly 164; scales of the tail 82.

Inhabits *America*: annulate; back with 3 white dots strung together like beads.

Hydrus. Plates of the belly 180; scales of the tail 66.

Inhabits the *Caspian sea*; never goes on land; nearly 3 feet long.

Head small, cheeks not inflated; *palate* with a double comb of fine sharp reclined teeth; *tongue* very long, black; *eyes* small with a yellow circle; *back* olive-ash with round black spots disposed by fives in 4 rows; *neck* with a band each side, forming an angle on the hind-head, with 2 oblong blackish spots between; *belly* tessellate with yellowish and blackish; *tail* almost entirely blackish, with a double minute daggered spot, one over the other, at the end.

Falvius.

albivus. Plates of the belly 218; scales of the tail 31.
Inhabits *Carolina*. Body with 22 black rings, and as many alternate tawny ones spotted with brown.

viridus. Plates of the belly 156; scales of the tail 96.
Inhabits *South America* and *India*. Pale, with scattered grey spots and brown dots; *sides* with 2 interrupted blackish lines; about $1\frac{1}{2}$ foot long.

neatus. Plates of the belly 169; scales of the tail 84.
Inhabits *Asia*; 18—21 inches long; blueish, with 4 brown linear stripes.

biguus ♂ Plates of the belly 189; scales of the tail 64.
Inhabits *America*; 4 feet 6 inches long; above hoary, with broad rounded brown bands; beneath paler, varied with deep brown.

us. ♂ Tawny-yellow; scales all marked with a white spot.
Inhabits *India*; resembles the next.

1. ♂ Plates of the belly 193; scales of the tail 60.
Inhabits *India* and *Ternate Islands*. Rusty-yellow, with the neck (generally) much dilated, and marked above with a spectacle-shaped spot of black and white; the most venomous of its tribe, and hardly inferior to the rattle-snake in the malignity of its poison; *head* small, covered with large scales; *body* covered with smooth scales.

2. With tawny-red bands over the whole body.

3. Cinereous, with a tawny back.

4. Tawny-yellow; all the scales with a white spot.

• Tawny, with distant tawny-brown bands; spectacle on the back somewhat hearted with 4 black spots.
Inhabits *Brasil*. Is probably only a variety of the *naja*.

2. Plates of the belly 198; scales of the tail 56.
Inhabits *South America* and *India*. White, with brown dorsal spots connected by a line, and as many lateral ones unconnected.

Plates of the belly 188; scales of the tail 70.
Inhabits *South America* and *India*. Hoary, with large whitish spots disposed ferrately, and a snowy spot beneath each; *snout* obtuse, rounded; *head* imbricate with scales.

Getulus.

- Getulus.** Plates of the belly 215 ; scales of the tail 44.
Inhabits *Carolina*. Blueish-black, with linear yellow lines on the sides, and bifid bands on the belly.
- Sibilans.** Plates of the belly 160 ; scales of the tail 100.
Inhabits *Asia*. Blueish with black stripes ; beneath white.
- Dione.** Plates of the belly about 190 ; scales of the tail 66.
Inhabits the salt deserts near the *Caspian sea*, and the dry mountains near the *Irtish* ; is slender and very elegant ; about 3 feet long.
Head small, square, reticulate with brown sutures ; *teeth* in 2 pectinate rows ; *back* a delicate blue or whitish, with 3 longitudinal whiter streaks, and intermediate alternate brown dashes, often subconfluent ; *belly* whitish, with minute livid brown spots and reddish specks.
- Zeylonicus.** Plates of the belly 180 ; scales of the tail 80.
Inhabits *Ceylon*. Body covered with large brown spots.
- Laticaudatus.** Plates of the belly 220 ; scales of the tail 42.
Inhabits *South America* and *India*. Cinereous with brown bands ; *tail* compressed, 2-edged, obtuse.
2. Tail sharp, lanceolate ; scales imbricate.
- Sirtalis.** Plates of the belly 150 ; scales of the tail 114.
Inhabits *Canada*. Slender, brown, striate with 3 bluish-green stripes.
- Atrox.** ♂ Plates of the belly 196 ; scales of the tail 69.
Inhabits *Asia* ; about 18 inches long ; hoary, scales cancellate beneath with transverse black-brown spots, alternating lengthways ; *head* angular, with minute scales.
- Sibon.** Plates of the belly 180 ; scales of the tail 85.
Inhabits *Africa*. Rusty-brown sprinkled with white ; beneath white spotted with brown ; *head* white.
- Nebulatus.** Plates of the belly 185 ; scales of the tail 81.
Inhabits *America* ; twists itself round men's legs ; 2 feet 10 inches long ; above waved with brown and cinereous, beneath varied with white and brown.

- Fuscus*. Plates of the belly 149; scales of the tail 109.
Inhabits *Asia*: about 4 feet long. Ashy-brown; behind the eyes an oblong brown spot.
- Brunneus*. Plates of the belly 191; scales of the tail 75.
Brown with white spots; belly white.
- Saturninus*. Plates of the belly 147; scales of the tail 120.
Inhabits *South America* and *India*; 21 inches long; livid, waved with brown; head oblong, livid; snout obtusely square; eyes very large; trunk gradually tapering.
- Candidus*. Plates of the belly 220; scales of the tail 50.
Inhabits *South America* and *India*. Whitish with brown bands.
- Niveus*. Plates of the belly 209; scales of the tail 62.
Inhabits *Africa*. White; without spots.
- Scaber*. Plates of the belly 228; scales of the tail 44.
Inhabits *South America* and *India*. Spotted with brown and black: crown with a black spot, bifid on the hind-part; scales carinate.
- Carinatus* ♂ Plates of the belly 157; scales of the tail 115.
Inhabits *South America* and *India*; above 6 feet long. Lead-colour, beneath white; head obtuse; eyes large, prominent; back carinate, scales pale at the edge; tail round, gradually tapering, with a pale line in the middle.
- Corallinus* ♂ Plates of the belly 193; scales of the tail 82.
Inhabits *Asia*. Glaucous, with 3 brownish stripes; scales distant; beneath pale, with hoary dots.
- Vivorus*. Plates of the belly 203; scales of the tail 73.
Inhabits *America*.
- Aurita*. Plates of the belly 156; scales of the tail 21.
Inhabits *Carolina*. Greenish; above brown, with 3 greenish lines.
- Constrictor* Plates of the belly 186; scales of the tail 29.
Vol. I. — 4 T Inhabits

Inhabits *North America*; runs swiftly and bites very hard, but is not poisonous; twists itself round the legs of such as approach it; very smooth and slender; black, beneath pale blue; *throat* white.

Exoletus. Plates of the belly 147; scales of the tail 132.

Inhabits *South America* and *India*. Shaped like a coach-whip; blueish-cinereous; *scales* large, obtuse, few in number; *lips* white.

Situla. Plates of the belly 236; scales of the tail 45.

Inhabits *Egypt*. Grey, with a longitudinal stripe each side, edged with a black line.

Trifcalis. Plates of the belly 195; scales of the tail 86.

Inhabits *South America* and *India*. Glaucous.

Back with 3 longitudinal brown lines, meeting on the nape, the middle one ending above; and on each *side* a brown line, running with the 2 former ones to the tip of the tail.

Guttulatus Plates of the belly 227; scales of the tail 60.

Inhabits *Carolina*. Livid.

Back with red and black spots; *sides* with black blotches; *belly* with black spots, alternately squared; *abdominal plates* 223—230.

Lemniscatus. Plates of the belly 250; scales of the tail 35.

Inhabits *Asia*; 3 feet long; very smooth, slippery and round; white with transverse rusty or black bands forming rings, of which 3 are near each other; *dorsal scales* ferruginous at the tip.

Annulatus Plates of the belly 190; scales of the tail 96.

Inhabits *America*: 1½—3 feet long.

Back cinereous, grey, brownish, or brownish-white, with a band, or round alternate brown spots, confluent, and forming a band, beneath white.

Dipsas. Plates of the belly 152; scales of the tail 135.

♂

Inhabits *America*. Blueish-green; *scales* whitish at the edge; *tail* beneath blueish.

Dhara. Plates of the belly 235; of the tail 48.

Inhabits

Inhabits *Yemen* in *Arabia* ; above a cubit long, and not as thick as a finger ; without spots, above copper-ash, the edge of the scales whitish, beneath white.

Head oval, obtuse ; scales of the *crown* large, the middle one between the eyes exceeding the rest.

Pelias. Plates of the belly 187 ; scales of the tail 130.

Inhabits *South America* and *India* ; behind the eyes, and on the crown brown, beneath green, with a yellow line each side.

Tyria. Plates of the belly 210 ; scales of the tail 83.

Inhabits *Egypt*, Whitish with a triple longitudinal row of rhomboid brown spots.

Jugularis. Plates of the belly 195 ; scales of the tail 102.

Inhabits *Egypt*. Black ; throat blood-red.

Caspian. Plates of the belly 198 ; scales of the tail 100.

Inhabits shrubby and low places on the shores of the *Caspian Sea* ; is fearful of man, unless when irritated, when it violently attacks him, running along the ground with its head erect and making a loud hissing ; above 5 feet long ; above alternately banded with yellow and brown, beneath yellow. *Eyes* globular, pale brown ; *jaws* with 2 rows of small, sharp teeth ; *back* and *sides* covered with 18 rows of scales, yellow in the middle, and white at the edge.

Orientalis. Plates of the belly 202 ; scales of the tail 96.

Inhabits the *East*.

Pethola. Plates of the belly 209 ; scales of the tail 90.

Inhabits *Africa*. Lead-colour with testaceous bands ; *body* resembling *C. natrix* ; *head* with a shining shield in the middle of the front between the eyes, suboval, consisting of many-shaped plates ; sides of the head and hind-head covered each side with imbricate scales ; snout sharp.

2. White, with spots on the back which on the fore-part are roundish, and become gradually rhomboid, reddish at the edge.

3. Blueish, with a quadruple series of black ocellate spots, blue in the middle and longitudinally disposed.

4. Blueish-white, with black-brown bands, and 2 longitudinal white divided lines.
5. Brownish, with a few pale bands; snout depressed.
6. With yellowish confluent bands near the belly.
7. Brownish-white, with very pale brown spots, the occipital ones 2, longitudinal, the dorsal ones elliptic, disposed in one row.
8. A brown stripe in the middle of the back; belly and sides whitish-brown.
9. With entire circular brown bands, beneath obliquely concurrent.

Ocellatus. Reddish, with scarlet ocellate spots; plate on the head yellowish-tawny.
Inhabits *Ceylon* and *China*; resembles the last.

Hitambocia. Yellow with 2 deeper bands; head tawny.
Inhabits *India*: nearly allied to *C. pethola*.

Tigrinus. Spotted all over; plate on the head clear white.
Inhabits *Amboina*; like *C. pethola*.

Catus. White; the scales disposed in fours, black and thickly crowded into patches.
Inhabits *America*; lies in wait for, and springs on mice like the cat.

Cervinus. White dotted with black in the middle, and branched with black at each end.
Inhabits *America*: resembles *C. pethola*.

Virginicus. Deep brown with yellow bands; front shielded.
Inhabits *Virginia*.

Ruber. Fine red, with spots alternately uniting, beneath white.
Inhabits *America*.

Austriacus. Tawny with a mixture of blueish-ash; spots of the back alternate distinct; front shielded.
Inhabits near *Vienna*.

Tessellatus.

- Tessellatus*. Above alternately tessellate with black and brown, beneath black with white unequal spots each side; head long, shielded.
Inhabits *Japidia*: resembles *C. pethola*.
- Eslicus*. Plates of the belly 155; scales of the tail 144.
Inhabits *Carolina*; very smooth; entirely blue, beneath pale green.
- Cahirinus*. Plates of the belly 230; scales of the tail 82.
Inhabits near *Cahira*; $4\frac{1}{2}$ feet long, and thick as a finger; above grey with large oval brown spots on the back; those on the sides small, square, notched, beneath entirely silky-white.
Head flattish, subcordate; *crown* with 2 pale oblong scales, 12 times as large as the rest.
- Flavescens*. Plates of the belly 225; scales of the tail 78.
Inhabits the *Tyrolese* country; 3 feet long; covered with elliptic scales; brown, beneath yellowish.
- Molurus*. Plates of the belly 248; scales of the tail 59.
Inhabits *South America* and *India*; resembles a Boa, yet has plates, and large scales on the head like the coluber.
- Schokari*. Plates of the belly 180; scales of the tail 114.
Inhabits the mountainous woods of *Yemen* in *Arabia*; a cubit and a half long, and as thick as a finger; above brownish with a double longitudinal white stripe each side, and in the larger ones a small stripe in the middle of the back composed of white dots, beneath whitish, growing yellow near the throat, and dotted with brown; *head* oval, obtuse; *crown* flat with large scales; *tail* half the length of the body.
- Bactan*. ♂ Spotted with black white.
Inhabits *Arabia*; a foot long, and nearly 2 inches thick; its bite is immediately fatal, the body swelling to a great size.
- Joelleik*. ♂ Entirely red.
Inhabits *Arabia*; a foot long; its bite produces a burning tumour, its breath is said to cause a violent itching.

Hannasch.

Hannasch. Entirely black.

♂ Inhabits *Arabia*; a cubit long, and as thick as a finger; its bite produces a swelling of the body.

Purpuraf. Plates of the belly 189; scales of the tail 122.
sens.

Ahetula. Plates of the belly 163; scales of the tail 150.
Inhabits *Asia* and *America*: 3 feet 14 inches long; shaped like a coach whip, golden-green, the skin which sometimes appears between the scales, black; head long, narrow; a black band across the eyes; tail square.

Petalarius Plates of the belly 212; scales of the tail 102.
Inhabits *South America* and *India*; from a foot to 2½ feet long; brown with white bands, beneath pale.

Pictus. Plates of the belly 172; scales of the tail 142.
Back blue; sides with a black line terminated by whitish.

Caracaras. Plates of the belly 190; scales of the tail 125.
Variegated with many vivid colours.

Haje. Plates of the belly 207; scales of the tail 109.
♂ Inhabits lower *Egypt*; very large, black with oblique bands and half white scales; when irritated it lifts up its head, and stretches out its head to bite.

Filiformis. Plates of the belly 165; scales of the tail 158.
Inhabits *South America* and *India*; black; exceedingly slender, beneath white; head thicker than the body.

Pallatus. Plates of the belly 217; scales of the tail 108.
Inhabits *Asia*: 22 inches long; bands of the body black with white dots; temples snowy with black spots; snout rounded, obtuse; beneath white with black spots.

Hippocrepis. Plates of the belly 232; scales of the tail 94.
Inhabits *America*; livid with brown spots; between the eyes a brown band, and an arched one on the hind-head.

Minerva. Plates of the belly 238; scales of the tail 90.
Inhabits *South America* and *India*. Glaucous with a brown stripe on the back and 3 on the head.

Cinereus.

- cinereus*. Plates of the belly 200; scales of the tail 137.
Inhabits *South America* and *India*. Cinereous; belly white, angular; scales of the tail ferruginous at the edge.
- iridiflavus*. Plates of the belly 217; scales of the tail 122.
Inhabits *Surinam*. Clear green; plates of the belly dilated in the middle.
- lucosus*. Plates of the belly 200; scales of the tail 140.
Inhabits *South America* and *India*. Blueish; a little more than a foot long.
- domesticus*. Plates of the belly 245; scales of the tail 94.
Inhabits *Barbary*, in houses; much resembles *C. hippocrepis*, but has a forked band between the eyes, or a double black spot.
- ba.* Plates of the belly about 272; scales of the tail 70.
Body clouded.
- anchoa*. Plates of the belly 220; scales of the tail 124.
Inhabits *America*. Brown with pale spots and snowy bands.
Head subglobular.
- cytherians*. Plates of the belly 192; scales of the tail 167.
Inhabits *America*. Whip-shaped; blueish.
Head angular; snout long, square; sides with a pale linear stripe; tail pentangular.
2. Inclining to mouse-colour.
 3. Colour pale green.
- eruleus*. Plates of the belly 215; scales of the tail 170.
Inhabits *South America* and *India*. Smooth, blueish; head acuminate, lead-colour.
- argus*. Above smooth, brown, subreticulate; scales paler on the disk; beneath tessellate.
Inhabits *Africa*. Hind-head gibbous, 2-lobed.

9. ANGUIS.

9. ANGUIS. Scales on the belly : and *scales* under the tail. *Snake.*

Striatus. Scales of the belly 179 ; of the tail 7.
Body surrounded with transverse lines.

Meleagris. Scales of the belly 165 ; of the tail 32.
Inhabits *South America* and *India* ; resembles *Lacerta bipunctata*.
Glaucous with numerous longitudinal rows of black dots.
2. Dotted with brown.
3. Tail very long.

Colubrinus Scales of the belly 180 ; of the tail 18.
Inhabits *Egypt*. Varied with brown and pale ochre.

Miliaris. Scales of the belly 170 ; of the tail 32.
Inhabits near the *Caspian Sea* : 14 inches long, and as thick as
the little finger ; black with numerous pale scales or dots on
the sides, and grey ones on the back.
Head grey, sprinkled with black ; *tail* 2 inches long, much
thinner than the body, cylindrical, obtuse, varied with
white.

Jaculus. Scales of the belly 186 ; of the tail 23.
Inhabits *Egypt*. Abdominal scales a little broader.

Maculatus Abdominal scales 200 ; subcaudal 12.
Inhabits *America* ; above yellow with a brown dorsal line
and linear bands.
2. Decussate with red bands dotted with black.
Inhabits *Asia*.

Reticulatus. Scales of the belly 177 ; of the tail 37.
Inhabits *America*. Scales brown with a white disk.

Cerastes. Abdominal scales 200 ; subcaudal 15.
Inhabits *Egypt*.

Nasutus. Scales of the belly 218 ; of the tail 12.

A foot long; colour greenish-black; beneath, at the sides, on the tip of the head; a broad band on the tail and dots on the tip all yellow.

Snout prominent; teeth 0; eyes on the top of the head, not lateral; trunk surrounded with 20 rows of hexagonal scales; tail $\frac{2}{3}$ of an inch long, with minute scales, and obtuse, rigid at the tip.

Lumbrica-lis. Scales of the belly 230; of the tail 7.
Inhabits America. Whitish, inclining to yellow.

Laticauda Abdominal scales 200; subcaudal 50.
Inhabits Surinam. Tail compressed, sharp, pale with brown bands.

Scytale. Scales of the belly 240; of the tail 13.
Inhabits South America and India. Varies very much in its colours; generally orange with black blotches, sometimes black and white, sometimes pale rose and black, paler beneath, and beautifully fasciated with bars of deep black.

Eryx. Scales of the belly 126; of the tail 136. *Aberdeen Snake.*
Inhabits America and England. Above cinereous with 3 black lines the whole length, beneath lead-colour with white spots.

Fragilis. Scales of the belly 135; of the tail 135. *Blind Worm.*
Inhabits Europe and Siberia, in hollow ways, woods, paths, and among rubbish; breaks into pieces if thrown down, and the fragments will live a long while afterwards.
Back yellowish-ash; belly black; sides streaked with black and white; tail long, obtuse; scales small, soft, compact. Colour various.

Centralis. Abdominal scales 127; subcaudal 223.
Inhabits Carolina.
Body ashy-green, striate; lateral band black; belly short, appearing as if annexed by a hollow suture; tail verticillate, 3 times as long as the body.

Platuros. Tail compressed, obtuse.

Inhabits the shores of *Pine Island* in the *Pacific Ocean*.

Body a foot and a half long; above black beneath white; *scales* minute, suborbicular, not imbricate; *head* oblong, toothless smoothish; *back* subearinate; *tail* variegated with black and white.

Lineatus. Blackish, above white; a curved line running down the whole body.

Clivicus. Cinereous-brown; plate of the front larger, heart-shaped.

Is common in the *Duchy of Cleves*.

Annulatus. White with straight brown bands meeting beneath; tail tapering, beneath with a double row of imbricate scales.

Scutatus. Very slender; waved with white and black bands; plates of the head broad; tail sharpish.

Inhabits *Surinam*. Belly and tail beneath with transverse broad scales like the *Boa*. It is probably not of this genus.

Corallinus. Red with paler bands; scales tipped with black.

Inhabits *Brazil*.

Ater. Black with white bands; scales tipped with black.

Inhabits *Ceylon*.

Rufus. Tawny with transverse interrupted white lines, beneath variegated.

Inhabits *Surinam*.

Hepaticus. Line on the top of the back, and waved line on each side liver-colour, the spaces between paler with round whitish spots.

Inhabits *Surinam*.

Macellatus. Saffron with numerous bands and 3 stripes; head white spotted with brown.

Inhabits *Paraguay*.

Albus. Entirely white, tapering towards each end.

10. AMPHISBÆNA. *Rings* on the body and tail.

The animals of this and the next genus have no scales, and a smooth equal cylindrical body; the tail hardly to be distinguished from the head, and very obtuse.

Fuliginosa. Rings of the body 200; of the tail 30.

Inhabits *America*. White, variegated with black or deepest brown; head without spots.

Varia. Variegated with white, black, chestnut and grey.
Inhabits *America*.

Magnifica. Variegated with purple, violet and yellow; head yellowish; a purplish band over the eyes.
Inhabits *America*.

Flava. Variegated with white and brown; head yellow.
Inhabits *America*.

Alba. Rings of the body 223; of the tail 16.
Inhabits *America*, near ant-hills. White, growing tawnyish on the fore-part; head annulate on the fore-part, and narrowed into an obtuse snout.

2. Rose-coloured. *Nat. Miscel. plate 86*.

11. CÆCILIA. *Wrinkles* on the body and tail: upper lip with 2 tentacula.

Tentaculata. Wrinkles of the body 135; of the tail 0.
Inhabits *America*; about a foot long and an inch in circumference; tail 0; teeth very small; body lead-colour.

Glutinosa. Wrinkles of the body 340; of the tail 10.
Inhabits *South America* and *India*. Brown with a white lateral line.

12. ACROCHORDUS. *Tubercles covering the whole body.*

Javanicus Brown, beneath paler; the sides obscurely variegated with whitish. *Warted snake.*

Inhabits *Java*, chiefly amongst the pepper plantations; grows sometimes to 7 feet long. The warts or prominencies, by means of a magnifying glass, appear to be convex carinate scales, and the smaller ones are furnished with 2 smaller prominencies, one each side the larger.

Head somewhat flattened, hardly wider than the neck; *body* gradually thicker towards the middle, and suddenly contracting near the the tail, which is short and slightly acuminate.

CLASS

CLASS IV. PISCES. FISHES.

THE Animals included in this class are always inhabitants of the waters; are swift in their motion and voracious in their appetites. They breathe by means of *gills*, which are generally united by a bony arch; swim by means of radiate *fins*, and are mostly covered over with cartilaginous *scales*.

Besides the parts they have in common with other animals, they are furnished with a nictitant membrane, and most of them with an air-bladder, by the contraction or dilatation of which, they can raise or sink themselves in their element at pleasure.

They are destitute of *eyelids*, external *ears*, *neck*, *arms* and *legs*.

They *breathe* through the medium of water and not of air; *move* themselves by means of the fins, are propelled forwards by the *caudal* tail-fin, directed to either side by the *dorsal* and *anal* fins, lifted upwards by the *pectoral*, and rest themselves on the *ventral* fins.

They are sometimes defended with *spines*.

Their *food* is mucus, insects, worms, dead bodies, lesser fish or sea-plants.

The *generic* character is taken from the shape of the body, covering, structure, figure and parts of the head, but principally from the branchiostegous membrane.

The *specific* character is taken from the cirri, jaws, fins, spines, lateral line, digitated appendages, tail and colour.

The *age* of fishes is known by numbering the concentric circles in a transverse section of the back-bone, or the concentric circles on the scales.

They are divided into 6 *Orders*, the 4 first of which have bony rays to the gills.

I. APODAL.

Ventral fins none. Fig. 3.

II. JUGULAR.

Ventral fins before the pectoral. Fig. 1.

III. THORACIC.

Ventral fins under the pectoral. Fig. 4.

IV. ABDOMINAL.

Ventral fins behind the pectoral. Fig. 5.

V. BRANCHIOSTEGOUS.

Gills destitute of bony rays.

VI. CHONDROPTERYGIOUS. Gills cartilaginous.

EXPLA-

EXPLANATION of the PLATE.

Fig. 1. *a.* Pectoral fin. *b.* Ventral fin. *c.* Anal fin. *d.* Caudal fin, or tail. *e.* Dorsal or back fin. *f.* Bony gill-covers. *g.* Branchiostegous rays and their membranes. *h.* Lateral or side line.

Fig. 2. A fish breathing through lateral apertures or spiracles, *a.*

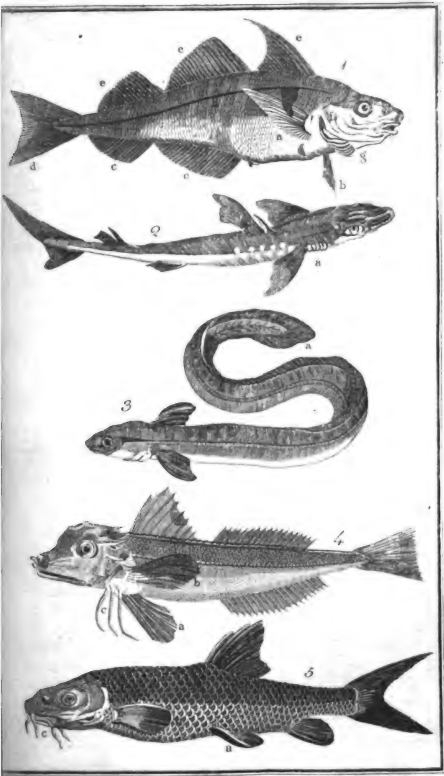
Fig. 3. An *Apodal* fish, having no ventral fins. *a.* The dorsal and anal fins united.

Fig. 1. A *Jugular* fish, having the ventral fins *b.* placed before the pectoral fins *a.*

Fig. 4. A *Thoracic* fish with the ventral fins *a.* placed directly under the pectoral fins *b.* *c.* Digitated appendages.

Fig. 5. An *Abdominal* fish, having the ventral fins *a.* placed behind the pectoral fins *b.* *c.* Cirri or bearded appendages.

CHARACTERS



Cute Et. Brand.

CHARACTERS of FISHES.

I. APODAL. *Ventral fins 0.*

1. MURÆNA. Aperture of the gills at the sides of the thorax.
2. *Gymnotus*. Dorsal fin 0.
3. *Gymnothorax*. Pectoral fin 0; body anguilliform.
1. *Leptocephalus*. Pectoral fin 0; body thin, much compressed.
4. *Trichiurus*. Caudal fin 0; body ensiform.
5. *Anarbichas*. Teeth rounded.
6. *Ammodytes*. Head narrower than the body.
7. *Ophidium*. Body ensiform.
9. *Xiphias*. Snout ensiform.
8. *Stromateus*. Body oval, scaly; breast simple.
10. *Sternoptyx*. Body oval, naked; breast folded.
12. *Stylephorus*. Eyes placed on a short cylindrical peduncle.

II. JUGULAR. *Ventral fins before the pectoral.*

13. *Callyonimus*. Aperture of the gills on the nape.
14. *Uranoscopus*. Head large, rough, depressed.
15. *Trachinus*. Vent near the breast.
16. *Gadus*. Pectoral fins tapering to a point.
17. *Blennius*. Ventral fins of 2 united rays.
18. *Kurtus*. Back elevated.

III. THORACIC. *Ventral fins under the pectoral.*

19. *Cepola*. Body ensiform, naked.
20. *Echineis*. Back of the head flat, transversely furrowed.
21. *Coryphæna*. Head sloping suddenly downwards.
22. *Gobius*. Ventral fins united into an oval fin.
23. *Cottus*. Head broader than the body.
24. *Scorpaena*. Head armed with prickles.
25. *Zeus*. Upper lip arched by a transverse membrane.
26. *Pleuronectes*. Eyes both on one side of the head.
27. *Chatodon*.

27. *Chatodon*. Teeth setaceous, flexile, crowded.
 28. *Sparus*. Teeth strong, obtuse; lips double.
 29. *Scarus*. Teeth 0; jaws crenate at the edges.
 30. *Labrus*. Dorsal fin with a slender skin beyond the end of each ray.
 31. *Sciæna*. Head and gill-covers with strongly fixed scales.
 32. *Perca*. Gill-covers 3-leaved, the upper serrate.
 33. *Trachycephalus*. Belly armed with large carinate scales.
 34. *Gasterosteus*. Tail carinate at the sides.
 35. *Scomber*. Tail carinate at the sides; several spurious fins between the dorsal fin and tail.
 36. *Centrogaster*. Tail carinate at the sides; ventral fins connected by a membrane, the first 4 rays spinous, the other six unarmed.
 37. *Mullus*. Body and gill-covers with large lax scales.
 38. *Trigla*. Distinct appendages near the pectoral fins.
 39. *Lonchurus*. Caudal fin lanceolate.

IV. ABDOMINAL. *Ventral fins behind the pectoral.*

40. *Cobitis*. Body hardly decreasing towards the tail.
 41. *Amia*. Head naked, bony, rough.
 42. *Silurus*. First-ray of the dorsal or pectoral fins toothed.
 43. *Teuthis*. Head truncate on the fore-part.
 44. *Loricaria*. Body mailed with a bony coat.
 45. *Salmo*. Hindmost dorsal fin fleshy.
 46. *Fistularia*. Snout cylindrical with a cover at the end.
 47. *Esox*. Upper jaw much shorter than the lower.
 48. *Elops*. Branchiostegous membrane double, the outer leaf.
 49. *Argentina*. Vent near the tail.
 50. *Atherina*. Body with a lateral silvery stripe.
 51. *Mugil*. Lower jaw carinate inwards.
 52. *Exocoëtus*. Pectoral fins as long as the body.
 53. *Polynemus*. Distinct appendages near the pectoral fins.
 54. *Clupea*. Belly carinate, serrate.
 55. *Cyprinus*. Gill membrane 3-rayed.

V. BRANCHIAL.

V. BRANCHIOSTEGOUS. *Gill destitute of bony rays.*

56. *Mormyrus*. Teeth notched ; scales imbricate.
 57. *Ostracion*. Ventral fins 0 ; body covered with a bony coat.
 58. *Tetrodon*. Ventral fins 0 ; belly prickly.
 59. *Diodon*. Body covered with spines.
 60. *Syngnathus*. Ventral fins 0 ; body covered with a strong crust.
 63. *Balistes*. Ventral fins solitary, placed like a keel.
 62. *Centrifcus*. Ventral fins united ; head ending in a narrow snout.
 61. *Pegasus*. Ventral fins 2 ; snout ciliate-toothed.
 64. *Cyclopterus*. Ventral fins 2, united into an oval concavity.
 66. *Lophius*. Ventral fins 2, more or less resembling feet.

VI. CHONDROPTERIGIOUS. *Gills cartilaginous.*

66. *Acipenser*. Ventral fins 2 ; mouth beneath without teeth.
 69. *Pristis*. Snout long, flat, spinous on both edges.
 67. *Chimæra*. Spiracle solitary, quadrifid.
 72. *Gastrobranchus*. Spiracles 2, ventral.
 68. *Squalus*. Spiracles 5, lateral.
 70. *Raia*. Spiracles 5, beneath.
 71. *Petromyzon*. Spiracles 7, lateral.

FISHES.

ORDER I. APODAL.

Gills bony : ventral fins 0.

1. MURÆNA. Head smooth : nostrils tubular. Gill-membrane with 10 rays. Eyes covered with a common skin. Body round, smooth, mucous. Caudal, dorsal and anal fins united. Spiracle behind the head or pectoral fins. Ech.

Helena. Pectoral fins 0 ; body variegated.*Roman Eel.*

2. Spotted with black and green.

Inhabits the *European* and *American* seas ; is exceedingly voracious ; bites dangerously, and was regarded by the Romans as one of the greatest luxuries of the table.

Colubrina. Pectoral fins 0 ; body alternately annulate with yellow and black bands. *Snake Eel.*

2. Irids brown with black spots.

Inhabits *Amboina* ; has very much the appearance of the *Aguis scytale*.

Body covered with most minute scales.

Snout pointed ; eyes very small ; dorsal fin with numerous very short rays.

Meleagris. Body blackish, thickly speckled with white. *Speckled Eel.*

Inhabits the *Southern Ocean* ; about 2 feet long.

Body deep brown or blackish, thickly set with small round white spots ; breast much paler. *Nat. Miscel.* 220.

**Ophis.* Body slender, spotted ; tail round, spear-shaped, naked.

Spotted Sea-serpent.
Inhabits

Inhabits *European seas* : 3—4 feet long.

Body small in proportion to its length ; *mouth* large ; *teeth* pointing inwards ; *back* spotted with white ; *belly* and *fins* whitish.

Serpens. Tail naked, pointed ; body round. *Serpent Eel.*

Inhabits the southern *European seas* : *pectoral fin* with about 16 rays.

**Anguilla.* Lower jaw longer ; body of one colour. *Common Eel.*

Inhabits almost every where in fresh waters ; grows sometimes to the length of 6 feet, and weighs 20 pounds ; in its appearance and habits something resembles the serpent tribe ; during the night quits its element and wanders along meadows in search of snails and worms ; beds itself deep in the mud in winter and continues in a state of rest ; is very impatient of cold and tenacious of life ; the flesh of such as frequent running water is very good ; is viviparous, and has 116 vertebrae.

Body, in stagnant muddy waters black, beneath yellowish, in in gravelly clear waters green or brownish, beneath silvery, sometimes varied with brown lines ; *head* small, narrowed on the fore-part ; *mouth* large ; beneath each *eye* a small orifice, and at the end of the *nose* 2 others, small and tubular ; *teeth* small, sharp, numerous ; *eyes* small, near the end of the *nose*, *pupils* black, *iris* golden ; aperture of the *gills* semilunar ; *body* a little compressed ; *lateral line* straight, dotted with white ; *skin* covered with soft oblong scales ; *pectoral fins* small, round, paler with about 19 rays ; *dorsal*, *caudal* and *anal fins* united, frequently edged with white.

**Mytus.* Fin surrounding the lower part of the body white, edged with black. *Flat-tailed Sea-serpent.*

2. Entirely cinereous.

Inhabits *European seas*.

Head narrowed on the fore-part ; 2 short *teutacula* on the upper lip ; *back* dark olive spotted with white ; *body* compressed. *Head* of 2) suspected of being poisonous.

**Conger.* Lower jaw rather shorter than the upper ; *nose* with 2 *teutacula* ; *lateral line* whitish with a row of spots.

Conger Eel.

4 X 2

Inhabits

Inhabits *European* seas and rivers ; is extremely voracious, feeding on other fish, crabs in their soft state, and particularly carcases ; grows to a vast size ; 5—6 feet long.

Body above dark olive, beneath white ; eyes large, irids silvery ; *lateral line* broad ; edges of the *dorsal* and *anal* fins black ; *pectoral fin* 19 rays.

Guttata. Glaucous speckled with black, with a larger spot each side near the head.

Inhabits *Arabia*.

Between the eyes a callous protuberance, irids golden ; upper lip shorter ; *dorsal* and *anal* fins connected with the base of the *caudal*.

Dors. 4 : *pect.* 9 ? *vent.* 0 : *an.* 36 : *caud.* 10.

2. GYMNOTUS. Head with lateral opercula : 2 *tentacula* at the upper lip : eyes covered with the common skin : *gill-membrane* 5-rayed : body compressed, carinate beneath with a fin.

Caropo. Naked, brown ; without *dorsal fin* ; tail tapering to a point ; lower jaws shorter. *American G.*

Inhabits fresh water rivers of *America* ; 1—2 feet long.

Back blackish spotted with brown ; *anal fin* not reaching to the tip of the tail, but terminating before the *caudal* ; tip of the tail ending in a finless thread ; *flesh* very good.

Dors. 0 : *pect.* 10 : *vent.* 0 : *an.* 230 : *caud.* 0.

Fasciatus. Naked, transversely striped ; *dorsal fin* 0 ; tail tapering to a point ; lower jaw longer. *Banda's G.*

Inhabits *Brazil* ; yellowish waved with brown, rufous or white and covered with thin scales.

Head small ; *teeth* small, numerous ; *fins* spotted ; *tail* short.

Dors. 0 : *pect.* 13 : *vent.* 0 : *an.* 193 : *caud.* 0.

Albus. White ; back convex without fin ; lower jaw longer ; upper lip each side with a small lobe before the angle of the mouth. *White G.*

Inhabits

Inhabits *Surinam*; resembles the last but is fatter and has a deeper cavity on the fore-part of the back.

Upper *lip* notched each side before the angle of the mouth.

Dors. 0 : *pect.* 13 : *vent.* 0 : *an.* 180 : *caud.* 0.

Electricus. Blackish, without dorsal fin; caudal fin very obtuse and joined to the anal. *Electrical G.*

Inhabits various rivers of *South America*; 3—4 feet long; has a remarkable power of inflicting an electrical shock whenever it is touched. This may be conveyed through a stick to the person that holds it, and is so severe as to benumb the limbs of such as are exposed to it. By this power it stupifies and then seizes such smaller fish and animals as have ventured to approach it.

Head sprinkled with perforated dots; *body* blackish with a number of small annular bands or rather wrinkles, by which it has the power of contracting and lengthening its body; *nose-trils* 2 each side, the first large, tubular and elevated, the others small, and level with the skin; *teeth* small, prickly; *tongue* broad and with the *palate* warty.

Albifrons. Fore-part of the back snowy. *White-shouldered G.*

Inhabits *Surinam*; about a foot long; sharp edged, hoary; *tail* white covered with rounded scales, which are very small on the back.

Head with a deeper mouth than the rest of its tribe, very obtuse, fleshy and sprinkled with minute pores; upper *lip* very thick including the lower; *tongue* 0; *gill-covers* with a semilunar opening before the fleshy base of the pectoral fins; *pectoral* fins black, prominent, with a small double bone at the base of the first ray; *palate* beset with papillæ; *anal* fin beginning from the throat; fore-part of the *back* convex, with a brown soft fleshy cirrus behind the middle, behind which it is destitute of scales; *tail* compressed, flat, with an oval fin; from the tip of the lower *jaw* to the middle of the back a snowy band.

Dors. 0 : *pect.* 16 : *an.* 147 : *caud.* 20.

Rostratus. Snout subulate; anal fin shorter than the tail.

Sharp-nosed G.

Inhabits *America*. Body spotted; subacute.

Dors. 0 : *pect.* 19 : *an.* 296 : *caud.* 0.

Neopterus.

Notopterus Silvery with a gilt hue ; dorsal and other fins pale ash.

Gilt G.

Inhabits *Amboina* : above 8 inches long ; depressed, lance-
siform ; back fat, somewhat convex, covered with
minute scales.

Head short obtuse ; *eyes* large, and above them a small pore ;
upper *jaw* with a few small equal teeth at the edge, lower
with a few larger and more distant, with a row of very minute
ones within ; *palate* edged with row of small teeth ;
gill-cover scaly with a membranaceous edge ; *vent* near the
throat ; *anal* fin more fleshy, and narrower on the fore-part.

Dors. 7 : *pect.* 13 : *an.* 116 rays.

Acus.

Naked : dorsal, ventral, caudal fins 0 ; anal fin with 60
rays, terminating before the tip of the tail.

Needle G.

Inhabits the *Mediterranean* ; compressed, long, tapering, ending
in a sharp point ; whitish with reddish spots and waved
with brown streaks, beneath blueish ; tentacula 0. *Pect.*
16 rays.

Aphaticus. Scaly ; back furnished with a fin.

Asiatic G.

Inhabits *Asia*. Body dusky with brown bands, thickish, and
more than a span long ; covered, even on the head, with
smooth, round, distinct scales.

Head depressed, smoothish, with 5 hollow dots and a small hole
on the front ; 2 truncate *tentacula* before the nostrils ; *tongue*
smooth ; *teeth* in both jaws sharp, besides which is a row of
teeth within the upper and a few hollowed points in the
lower ; *gill-covers* at the side, with a large gape ; *body* sub-
cylindrical, compressed on the hind-part ; *dorsal* fin beginning
at the nape and reaching to the tail, and with the hind-
part of the body spotted with white ; *lateral line* elevated,
straight, but descending before the anus.

3. GYMNOTHORAX. *Body* eel-shaped : *pectoral* fin 0 : *spiracle* single on each side, small, oval, uncovered : *mouth* armed with numerous sharp teeth : *nostrils* tubular.

Catenatus. Brown variegated with confluent veins. *Marbled G.*
Inhabits American seas ; 1½ foot long.
Head with 2 small tentacula at the end of the nose.
Dorsal, anal and caudal fins united.

Zebra. Blackish-brown with transverse linear distant white bands meeting irregularly beneath. *Striped G.*
Inhabits American seas ; 2—3 feet long.
Body serpent-like, without fins ; *head* tumid ; *tentacula* 0.

Echidna. Head depressed ; body varied with brown and black, and immediately behind the head very turgid. *Palmerston G.*
Inhabits Palmerston Island ; 4—5 feet long, 10—12 inches thick ; has a horrid aspect and much resembles a serpent.
Head small ; *lip* mucous ; *mouth* horizontal, with 2 cirri near the nostrils ; *eyes* small, vivacious ; *gape* large *flesh* very good.

Caca. Fins 0 ; snout somewhat pointed. *Blind G.*
Inhabits the Mediterranean sea.
Body like an eel ; middle of the *head* with 7, fore-part with 8, and hind-head with 7 perforated points ; *jaws* acuminate ; *teeth* small, sharp ; *nostrils* tubular, under the end of the nose ; aperture of the *gills* under the neck ; *vent* nearer the head than the tail.

4. TRICHIURUS.

4. **TRICHIURUS.** *Head* lengthened, the apertures lateral: *teeth* ensiform, hooked on one side, the fore-ones larger: *gill-membrane* 7-rayed: *body* compressed, ensiform: *tail* subulate, without fin.

Lepturus. Lower jaw longer than the upper.

Inhabits fresh waters of *South America*: $3\frac{1}{2}$ feet long; is voracious, and swims rapidly; frequently leaps into boats as they pass by; body naked, entirely silvery.

Head narrow, compressed, long; *mouth* large; *teeth* movable, some long and hooked, some short and pointed; *tongue* long, smooth, triangular; *palate* smooth; *throat* with 2 oblong small bones; *eyes* vertical, approaching, large, *pupil* black, *iris* golden, within edged with white; aperture of the *gill* large, of one piece and membranaceous at the edge; *lateral line* yellow, reaching from the gill-cover to the tip of the tail; *vent* narrow, nearer the head than the tail; *pectoral* fins small, 11-rayed; *dorsal* single, extending from the nape to nearly the tip of the tail; instead of the *anal* fin are about 110 small prickles, behind the vent. *Dors.* 117: *pect.* 11.

Indicus. Jaws equal.

Inhabits the *Indian Ocean*: is in a small degree electrical brown, spotted, with most minute teeth; *tail* less, sharp.

5. **ANARHICHAS.** *Head* rounded, blunt: *fore-teeth* in each jaw, conic, large, divergent, 6 or more; *grinders* in the lower jaw and *palate* rounded: *gill-membrane* 7-rayed: *body* roundish: *caudal* fin distinct. *Wolf-fish.*

* *Lupus.* Livid-ash; sides, anal and caudal fins and belly whitish. *Ravenous W.*

2. Sides and back with irregular transverse dusky streaks.

Inhabits

Inhabits *Northern seas*; grows to 15 feet long; is a most ravenous and fierce fish, and will fasten on any thing within its reach; feeds on lesser shell-fish, which it grinds to pieces with its teeth and swallows shells and all; moves slowly and with something of a serpentine motion; the grinders are often found fossil, and are called toad-stones; the flesh is good, but not often eaten.

Body long, mucous, compressed; *skin* thick, tough, and covered with minute deep-seated scales; *head* strong, sloping on the fore-part; *mouth* large; *lips* strong, membranaceous; each *jaw* formed of 2 bones joined by a cartilage; behind the *fore-teeth* is a row of lesser ones; *tongue* short, obtuse, smooth; *eyes* oblong, *pupil* black, *iris* silvery; *vent* large, nearer the head than the tail.

Dors. 73: *pect.* 20: *an.* 46: *caud.* 13—18 rays.

Minor. *Less;* body blackish-ash; teeth cartilaginous; more pointed. *Lesser W.*

Inhabits the *Greenland seas*.

Eyes large, seated near the top of the head, which resembles that of a dog; *mouth* large; *teeth* each jaw, each side 3, sharp, strong, unequal, with 2 lesser in the anterior space between them; *dorsal* fin beginning from the neck, *anal* from the vent, both ending before they reach the tail; *pectoral* fins broad with divided rays.

Dors. 70: *pect.* 20: *an.* 44: *caud.* 21 rays.

Pantherinus. *Body* covered with round brown spots. *Panther W.*

Inhabits the *Northern* and *Frozen seas*: above 3 feet long; is mucous, inflated, yellowish, and sprinkled over with dots in the place of scales.

Head subglobular; *lips* doubled; *mouth* large; *palate* with 7 teeth; *eyes* largish, distant; aperture of the *gills* lunate, straitened, the covers consisting of 2 pieces; *back* convex at first and gradually sloping, *fin* beginning 4 inches from the nape and ending at the tip of the tail; *pectoral* fins very broad and rounded; *vent* near the middle of the body; *tail* lanceolate. *Dors.* 67: *pect.* 20: *an.* 44: *caud.* 20 rays.

6. AMMODYTES. *Head* compressed, narrower than the body: upper *lip* doubled in; lower *jaw* narrow, pointed: *teeth* very sharp: *gill-membrane* 7-rayed: *body* long, square, the sides rounded: *caudal* fin distinct. *Launce.*

**Tobianus. Am.*

Sand Launce.

Inhabits sandy shores of the *Northern seas*; 9—12 inches long; buries itself on the recesses of the tides a foot deep in the sand, and in fine weather rolls itself up and lifts its nose just above the sand; is the prey of other rapacious fish; the flesh is good, but it is generally used for baits.

Head oblong; *eyes* small, *pupil* black, *iris* silvery; in the *jaw* are 2 rough oblong bones; region of the *gills* silvery; *back* blue, varying with green, on each side of which is a narrow dusky line or two; *sides* and *belly* silvery; *lateral line* straight; *vent* nearer the tail, with a brown spot near it; rays of the *fins* soft; *tail* forked.

Dors. 58: *pect.* 12: *an.* 28: *caud.* 16 rays.

7. OPHIDIUM. *Head* nakedish: *teeth* both in the jaws and palate: *gill-membrane* 7-rayed: *body* ensiform.

**Barbatum.*

Lower jaw with 4 cirri.

Bearded Oph.

Inhabits the *Mediterranean* and *Adriatic seas*, and is rarely found in the *British*; 12—14 inches long; silvery-grey with linear spots; *lateral line* dusky.

Head small, without scales; upper *jaw* doubled in and longer than the lower; *lips* thick; *teeth* very small; *eyes* covered with the common skin, *pupil* black, *iris* golden, with a transparent nictitant membrane; *tongue* smooth, narrow, short; *back* convex, blueish; *lateral line* brown; *vent* nearer the head than the tail; *pectoral* fins small, brown at the base and edged with cinereous, the rest joined together, narrow, white and edged with black; *scales* irregularly placed and dispersed

dispersed over the body, sometimes round, sometimes nearly oval, larger near the head, and hardly distinguishable near the tail, adhering to the body by means of a thin transparent skin.
Dors. 124: *pect.* 20: *an.* 115.

• *Imberbe.* Jaws without cirri; tail somewhat blunt. *Beardless O.*
 Inhabits *European seas*.
Dorsal, anal and caudal fins united.
Dors. 147: *pect.* 26: *an.* 41: *caud.* 18.

Viride. Jaws without cirri; tail a little pointed. *Green O.*
 Inhabits deep parts of the *Greenland seas*; is a very rare fish, and is found often as large as a whiting; the body is long, compressed, green; flesh eatable.
Head broader than the body, depressed, the neck elevated and grooved between the eyes; *eyes* large, dusty-green, *iris* white; *mouth* large; *lower lip* a little longer than the upper; *teeth* small; *dorsal, anal and caudal fins* united, white, the rays very small and numerous; *belly* white before the vent, which is nearer the head; rays of the *caudal fin* longer and ending in a point. *Pect.* 10—11 rays.

Aculeatum Jaws acuminate. *Prickly O.*
 Inhabits fresh rivers of *India*; 6—8 inches long; feeds on worms and a fat kind of earth; is esculent and long.
Head small, narrow; *jaws* without teeth; *eyes* small, *pupil* black, *iris* white; *gill-cover* of one piece; *back* convex, the sides above reddish, beneath silvery, with 14 recurved distinct prickles, longitudinally placed before the fin; *vent* nearer the tail; *pectoral fins* violet, brown at the base; *dorsal fin* reddish varied with brown, with 2 black spots surrounded with a paler ring; *anal fin* reddish edged with black, *caudal* blueish varied with black.
Dors. 51: *pect.* 16: *an.* 53: *caud.* 14 rays.

8. STOMATEUS. *Head* compressed: *teeth* both in the jaws and palate: *body* oval, broad, slippery: *tail* forked.

Fiatola. Body beautifully partly barred.

Inhabits the *Mediterranean* and *Red seas* ; has 2 stomachs.
Dors. 46 : *pect.* 25 : *an.* 34 rays.

Paru.

Back gold-colour ; belly silvery.

Inhabits *South America* and *Tranquebar* : feeds on lesser fish and worms ; body slender, covered with small thin deciduous scales ; flesh white, tender, delicious.

Head middle-sized, sloping, above brownish ; eyes large, pupils black ; iris with a white ring and another yellow one : mouth small ; jaws equal ; teeth small, sharp ; lips strong, moveable ; tongue smooth, broad ; aperture of the gills very large, the cover of one piece and surrounded with a membrane : lateral line nearer the back, broad, silvery ; vent nearer the mouth than the tail ; fins long, scaly, rigid, white at the base and edged with blue, the rays soft, branched.

Dors. 50 : *pect.* 24 : *an.* 42 : *caud.* 18 rays.

Cumara.

Back blue ; belly white.

Inhabits fresh waters of *Chili* : is about a span long, and not crossed with stripes.

9. XIPHIAS. *Head* furnished with a long, hard, sword-shaped upper jaw : mouth without teeth : gill-membrane 8-rayed : body rounded, without apparent scales.

Sword-fish.

Gladius.

Dorsal fin falcate.

European S.

Inhabits the *European* and *Mediterranean seas* : grows to 20 feet long ; is very active, and feeds on fish, the larger of which it penetrates and destroys with its sword-like snout ; body long, smooth, covered with a thin skin ; flesh very good.

Head sloping, steel-blue ; mouth large ; upper jaw compressed at the top and sharp at the point, four times as long as the under jaw, which is likewise sharp ; eyes prominent, pupils black, iris greenish-white ; aperture of the gills large, the cover of 2 laminæ ; back black, belly white ; lateral line spotted with black ; fins scythe-like, dorsal brown, pectoral yellowish, the rest cinereous ; caudal semilunar.

Dors. 42 : *pect.* 17 : *an.* 18 : *caud.* 26.

Platypterus.

Platypterus.

Dorsal fin very broad; thorax with 2 very long pointed appendages. *Indian S.*

Inhabits the *Brazilian* and *East Indian* seas; grows to the length of 20 feet or more; is a very powerful fish, frequently attacks whales, and pierces the sides of ships with its sword-like snout. A part of the bottom of a large East-Indiaman, with sword of this fish driven completely through, is now in the *British Museum*. The fish was killed by the violence of the effort, and the vessel probably saved from foundering by its not having power to withdraw it. *Nat. Miscel.* 88.

Body silvery blueish-white; upper part of the back, head and tail deep brown; dorsal fin pale brown, finely spotted with roundish black marks; skin smooth, without the appearance of scales; tail semilunar.

10. STERNOPTYX. Head obtuse: teeth very minute: gill-membrane 0: body compressed, without apparent scales: breast carinate, folded: belly pellucid.

Diaphana. St.

Inhabits *America*: small, compressed, truncate before, narrowed and silvery behind.

Eyes large, amber-colour; mouth perpendicular; tongue thick, rough; upper lip short, lower perpendicular with 4 semi-circular depressed cavities distinct from the ridge, and 3 others under the aperture of the gills; the aperture is oblique with soft covers; folds of the breast forming a pellucid ridge; back greenish-brown, gibbous behind the fin, with a double ridge diverging towards the nostrils; lateral line 0; dorsal fin with an oblique, strong, spinous immoveable ray, joined to which is a membrane very finely toothed at the edge; pectoral fins amber-colour; tail bifid.

Dors. 5: pect. 8: an. 13: caud. 40.

II. LEPTO-

11. **LEPTOCEPHALUS.** *Head* small, narrow : *body* extremely thin, compressed : *pectoral fins* 0.

•*Morrissi.* *Leptocephalus*.

Morr.

Found in the sea near *Holy-Head* ; 4 inches long.

Body almost transparent, growing slenderer towards the tail, ending in a point ; *eyes* large ; *teeth* in both jaws, very small. *lateral line* straight ; *sides* marked with oblique strokes meeting at the lateral line ; *aperture* of the *gills* large ; *dorsal fin* low and thin, extending the whole length of the back, very near the tail ; *anal* extending to the vent.

12. **STYLEPHORUS.** *Eyes* pedunculated, standing on a short, thick cylinder : *snout* lengthened, directed upwards, retractile towards the head by means of a membrane : *mouth* without teeth ? : *gills* 3 pair, beneath the throat : *pectoral fins* small ; *dorsal* as long as the back ; *caudal* short with spinous rays : *body* very long, compressed.

Chordatus. St.

Chordatus S.

Inhabits *West India* seas ; whole length about 32 inches, of which the process at the end of the tail measures 22 ; *body* rich silvery, flexible part belonging to the *snout* brown, *fin* and *caudal process* paler brown.

Snout connected to the back part of the head by a flexible leathery duplicature, which permits it to be extended so that the mouth points upwards, or to fall back so as to be received into a sort of case formed by the upper part of the head ; *eyes* close to each other, and with the short columnar

c. 22

clear chestnut-brown, with a coppery gloss; below the *head* each side, a considerable compressed semicircular space, the fore-part of which is bounded by the *gill-cover*, which seems to consist of a moderately strong membrane; *body* gradually diminishing as it approaches the *tail*, which terminates in a process or string of enormous length, ending in a very fine point; *pectoral* fins small, situate behind the cavity each side the thorax; *caudal* fin with 5 spinous rays.

Lin. Transf. 1. 90. *Natural Miscel.* 274.

ORDER

ORDER II. JUGULAR.

Gills bony : ventral fins before the pectoral.

13. **CALLIONYMUS.** *Upper lip doubled up : eyes approximate : gill-membrane 6-rayed, the aperture in the neck ; covers shut : body naked : ventral fins very remote.* *Dragonet.*

**L. 172.* First ray of the first dorsal fin as long as the body.

Gemmeus D.

Inhabits the *Mediterranean* and *Northern* seas ; 12—14 inches long ; feeds on echini and star-fish ; body tapering, roundish ; flesh white and good.

Head oblong, broad, above convex, brown, beneath flat spotted with blue at the sides ; *mouth* large ; *lips* thick ; *jaws* with numerous small teeth ; *tongue* short, moveable ; *eyes* oblong, placed on the crown ; *pupil* black-blue ; aperture of the *gills* narrow, tubular, the cover of one piece with a trifurcate spine at the end ; *back* straight, brown, yellow at the sides, white towards the belly with 2 interrupted blue lines : *vent* near the head ; *lateral line* straight ; *pectoral* fin brown, round ; *ventral* broad, consisting of 5 branched rays ; *anal* blue, round, long, the rest yellow, the rays of the pectoral and ventral branched.

Dors. 4, 10 : *pett.* 18 : *vent.* 5 : *an.* 10 : *caud.* 10.

**Dracunculus.* Rays of the first dorsal fin shorter than the body.

Sordid D.

Inhabits the *European* seas ; about 6 inches long ; silvery and spotted ; head and back brown ; flesh white, good ; body broad on the fore-part and narrowed behind.

Head flat, broader than the body, sloped down to the nose ; *eyes* large, oval, prominent, vertical, *pupil* black, *iris* reddish ; *mouth* small ; *teeth* very minute ; first dorsal fin 4-rayed, the first setaceous, longer, the last very short ; *ke-*
cond

cond 10-rayed, soft, the ends extending beyond the webs which are pellucid; *pectoral* fins ferruginous with deeper spots; *ventral* fin with branched rays; *anal* white; *back* longitudinally grooved, with 4 holes before the first fin; upper *jaw* a little longer than the lower.

Dors. 4, 10: *pect.* 19: *vent.* 6: *an.* 9: *caud.* 10

Indicus. Head smooth, longitudinally wrinkled; gill-covers opening at the sides. *Indian Dr.*

Inhabits *Asia*.

Head depressed; *mouth* rough; lower *jaw* a little longer; *tongue* obtuse, notched; aperture of the *gills* large, the first cover with 2 spines, the hinder with only one; *body* very much depressed, livid; *vent* in the middle; first ray of the *dorsal* fin very short, remote.

Dors. 1, 13: *pect.* 20: *vent.* 1: *an.* 13: *caud.* 11.

Baikalsis *Ventral* fins 0; first *dorsal* fin very small, second with cirriferous rays. *Baikal D.*

Inhabits the deepest parts of the lake *Baikal*, and in summer approaches the shore in great numbers; about 9 inches long; *body* soft, as if smeared with oil, slender a little compressed, and gradually tapering from the head.

Head large, nearly triangular at the base, flat on the crown, with a bituberculate ridge on the temples; *eyes* largish, black, near the front; *snout* broad, depressed; *mouth* very large; *jaws* thick at the edge, rough with numerous small hooks, the lower prominent, smooth at the end and subacute; *gill-membrane* lax, the rays very remote and cartilaginous; *pectoral* fins lax, half as long as the body, the rays very thin and rigid; rays of the second *dorsal* fin alike rigid, very long; *tail* 2-lobed; *lateral line* nearer the back.

Dors. 8, 28: *pect.* 13: *vent.* 0: *an.* 32: *caud.* 13.

Ocellatus. Membrane of the first *dorsal* fin with brown stripes, and 4 brown ocellate spots. *Ocellate D.*

Inhabits the sea round *Amboina*: size of a little finger; varied with cinereous and brown and some white points scattered over the cinereous, beneath whitish; roundish, tapering, more depressed near the head, and fatter than others of its tribe.

Head small, rather acute, crown flattish, snout obtuse; eyes small, lateral; *mouth* small, lips fleshy, tumid, the upper one doubled up; aperture of the *gills* acute, with a single spine; first *dorsal* fin (in the male) entirely dusky-black, with setaceous flexible rays; (female) broad, the membrane beneath with brown stripes, bounded by a white line, edged with black, above with spots black in the centre and surrounded with a white circle edged with black; hinder *dorsal* fin narrower, brown with parallel white lines; *pectoral* fins hyaline, spotted with white at the base, the rays twice marked with brown, the 4 middle ones longer; *ventral* fins large, bicinate, black, edged with white, the rays very thick and much branched; *anal* fin serrate, black with a white base, the 2 first rays setaceous, the rest bifid; *vent* a little before the middle of the body, and behind it a small conic peduncle placed in a cavity (in the female); *lateral line* straight; *tail* rounded, spotted with brown at the base, the rays marked with brown.

Dors. 4, 8 : *pect.* 20 : *vent.* 5 : *an.* 7 : *caud.* 10 rays.

Sagitta. **Head triangular; gill-membrane 3-rayed; rays of the dorsal fins equal.** *Arrow-headed D.*

Inhabits the sea round *Amboina*; 3 inches long; above brownish clouded with grey, beneath whitish-grey; body thin, depressed near the head and tapering downwards, somewhat convex and 4-sided.

Head large, broad, very much depressed with a sharpish snout, at the end of which is the *mouth*, gape small, lips minute, the upper slightly doubled in; *jaws* rough; *tongue* very short, flat; *eyes* small, approaching; *iris* silvery; *gill-veins* soft, the hinder lamina broad, reaching to the pectoral fins, the fore one ending in a long subulate spine, serrate within with small teeth turned back; first *dorsal* fin very small, with a dark brown band on the hind-part, second and *pectoral* fins hyaline, varied with brown and whitish; *ventral* fins jagged, dotted with brown, the rays much branched; *anal* fin narrow, the last ray branched; *vent* a little before the middle of the body; *lateral line* straight, growing obsolete towards the head; *tail* rounded, spotted above with brown.

Dors. 4, 9 : *pect.* 11 : *vent.* 5 : *an.* 8 : *caud.* 10 rays.

Japonicus. First dorsal fin with a black ocellate spot, the first ray terminating in 2 hairs half an inch long. *Japan D.*
Inhabits

Inhabits the sea round *Japan*; $9\frac{1}{2}$ inches long; body variegated, smooth; roundish,

Head depressed; eyes large, approximate; first dorsal fin with black rays, the hinder whitish; pectoral fins rounded; ventral very large; caudal 4 inches long, forked, the rays unequal.

Dors. 4, 10 : pect. 17 : vent. 5 : an. 8 : caud. 9 rays.

14. URANOSCOPUS. Head large, depressed, rough : upper jaw shorter than the lower : gill-membrane with 6 papillous toothed rays; the covers with a membranaceous fringe; vent in the middle of the body,

Scaber. Back smooth.

Inhabits *Mediterranean sea*: frequents deep places near the shores; about a foot long; body above brown, cinereous at the sides, beneath white; feeds on lesser fish and aquatic insects; sometimes sleeps; flesh white but tough.

Head large, square, mailed with a bone sprinkled over with minute warts, and which terminates above in 2, beneath in 5 spines; tongue thick, strong, short, covered with minute teeth; lips bearded with cirri; upper jaw with a double oval cavity within, lower covered with a membrane terminating in a long appendage; eyes vertical, approximate, pupil black, iris yellow; aperture of the gills very large; body covered with small scales, nearly square as far as the vent, and afterwards round; lateral line consisting of small, round, hollow dots, descending from the nape to the pectoral fins and afterwards straight; fins with soft yellow rays, those of the ventral quadrifid, of the broad pectoral cleft at the tip, of the glossy-black anal and dorsal simple, of the caudal much branched; first dorsal fin bony.

Dors. 4, 14 : pect. 17 : vent. 6 : an. 13 : caud. 12 rays.

Japonicus. Back with a row of spinous scales.

Inhabits the sea round *Japan*; half a foot long; body round, above yellow, beneath white.

Head depressed, with recurvate prickles; *ventral* fins short.

Dors. 4, 15: *pect.* 12: *vent.* 5: *caud.* 8 rays.

15. **TRACHINUS.** *Head* compressed, spinous at the top: *gill-membrane* 6-rayed; the covers aculeated, lower lamina ferrate: *vent* near the breast.

Draco. Tr.

Sting-bull. Common Weaver.

Inhabits most *European* seas; seldom grows to 12 inches long; buries itself in the sand, and leaves only its nose out; if trodden on strikes with great force. The wounds inflicted by the spinous rays of the first dorsal fin produce an immediate and often dangerous inflammation extending all up the arm and shoulder. Body long, compressed, and covered with small, round, deciduous scales; feeds on shell-fish, crabs, aquatic insects and lesser fish; flesh very good.

Head moderate; *under jaw* longer, sloping very much towards the belly; eyes brilliant, vertical, pupil black, iris yellow spotted with black; mouth large, oblique; teeth small sharp; tongue pointed; aperture of the gills large; head straight, yellow-brown; sides and belly silvery, with oblique brown lines; lateral line straight; first dorsal fin with a black membrane, and when quiescent lodged in a small hollow, the rays very rigid, the rays of the others branched; pectoral and caudal larger than the rest.

Dors. 5, 24: *pect.* 16: *vent.* 6: *an.* 25: *caud.* 15 rays.

16. **GADUS.** *Head* smooth: *gill-membrane* with 7 slender rays: *body* oblong, covered with deciduous scales: *fins* all covered with the common skin; dorsal and anal generally more than one; the rays unarmed: *ventral* fins slender, ending in a point. *Cod-fish.*

A. Dorsal fins 3; mouth bearded.

**Eglefinus.*

Whitish; tail forked; upper jaws longer. *Haddock.*
Inhabits the *Northern seas*, and migrates in vast shoals, appearing on the *Yorkshire* coasts about Christmas; feeds in summer on young herrings and other small fish, in winter chiefly on *serpulæ*; is eagerly hunted after by seals and other rapacious marine animals; flesh white and tolerably good.

Head wedged; *mouth* narrower than in others of its tribe; *eyes* large, pupil black, iris silvery; *scales* minute, rounded, and sticking firmer than in the other species; *body* thick, silvery, above brownish; *lateral line* nearer the back, black; *jaws* with very minute teeth; *fins* blueish, the first dorsal angular; space between the hind-part of the first dorsal fin ridged; each side beyond the gills a large black spot.

Dors. 16, 20, 19: *pect.* 19: *vent.* 6: *an.* 22, 21: *caud.* 27 rays.

**Callarias.* Colour various; tail equal; upper jaw longer. *Torsk.*
Inhabits the *Baltic* and northern *European* seas; sometimes enters the mouths of rivers; feeds on lesser fish, worms and marine insects; flesh white, firm and finely flavoured; seldom exceeds 2 pounds weight.

Head less than the last, cinereous, spotted in the summer with brown, in the winter with black; *eyes* round, pupil black, iris pale yellow; *mouth* large; *teeth* in the palate, many rows in the upper jaw, and only one row in the lower; *body* covered with small, thin, soft scales, above cinereous, beneath white, rarely reddish, with brown spots which in the young

young fish are often orange; *lateral line* nearer the back, broad, curved, spotted; *fins* brownish, sometimes reddish. *Dors.* 15, 16, 18; *pect.* 17; *vent.* 6; *an.* 18, 17; *caud.* 20 rays.

• *Merhua*. Tail subequal; first anal ray spinous. Common C.

Inhabits northern *European* and *American* seas in innumerable shoals; generally 2—3 feet long; is very voracious and will prey even on its own tribe; will often swallow stones or any hard substances to allay hunger by distending the stomach; is beyond imagination prolific, nearly a million of eggs having been counted in one roe; these it lays under stones in the spring; *body* cinereous spotted with yellowish, beneath white, the younger fish sometimes reddish spotted with orange; *scales* larger than in others of its tribe; *flesh* white, and excellent when in season. Of the air-bladder or sound is made isinglass.

Mouth large; *jaws* equal, bearded with a cirrus; *pupil* black, *iris* yellowish; *fins* with soft, branched rays, the dorsal, first anal and caudal spotted with yellow; hinder anal and ventral cinereous, pectoral yellowish; *vent* nearer the head; *lateral line* broad, white, straight till it reaches the vent.

Dors. 15, 19, 21; *pect.* 17; *vent.* 6; *an.* 20, 16; *caud.* 14 rays.

• *Luscus*. First ray of the ventral fins setaceous. Bil.

Inhabits *European* seas: grows to a foot long; *body* above pale olive, sides finely tinged with gold, belly white; *scales* larger than the last and extremely deciduous; *flesh* excellent.

Mouth small; middle *dorsal* fin longest; *vent* nearer the head than the tail; *anal* fin dusky, edged with white; *tail* even edged with black.

Dors. 12, 20, 10; *pect.* 16; *vent.* 6; *an.* 13, 18; *caud.* 17 rays.

• *Barbatus* Each side the lower jaw 7 punctures. Whiting-pout.

Inhabits northern *European* seas: 15—18 inches long; deposits its spawn among rocks on a southerly shore; feeds on smaller fish and crabs; *flesh* white, soft, and eatable, but rather dry; *body* white, more dusky on the back and tinged with yellow.

Head small; *mouth* large; *upper jaw* longer; *teeth* very small, in both jaws; *lips* cartilaginous, connected by the common contractile skin; *tongue* short, thick, rough on the hind-part;

part; eyes large, prominent, pupil black, iris silvery or citron; aperture of the gills large, the cover of many pieces; body covered with small scales, sticking closely; lateral line black, beginning at the nape, bending towards the belly at the end of the second dorsal fin, and ending in the middle of the caudal fin; back much arched, carinate, very deep; vent nearer the head; fins edged with black, and except the caudal one olive; first dorsal fin high, short, falcate; pectoral with a black spot at the base.

Dors. 12, 20, 20: *pect.* 18: *vent.* 6: *an.* 19, 19: *caud.* 40 rays.

**Minutus*. Each side the lower jaw 9 punctures; vent in the middle of the body. *Poor.*

Inhabits *European and Mediterranean seas*; 7 inches long; feeds on testaceous animals and worms, and is the prey of the larger fish of its own tribe; body silvery spotted with black, back brownish-yellow covered with small thin scales.

Head wedged; lower jaw shorter with fewer rows of teeth; eyes round, pupil black, iris silvery; gill-covers punctured; lateral line narrow, straight; tail forked.

Dors. 12, 19, 17: *pect.* 13: *vent.* 6: *an.* 27, 17: *caud.* 18 rays.

Blennoides Ventral fins bifid.

Inhabits the *Mediterranean sea*: 9 inches long; body thick, soft, convex, compressed, covered with small scales; silvery white, grey towards the back.

Head thick, conic, obtuse; lips fleshy, doubled; teeth minute, unequal, in the upper jaw hardly visible; tongue fleshy, pointed, prominent, sharp-edged; palate longitudinally striate; eyes large, iris silvery; gill-covers soft; lateral line arched on the fore-part; fins yellowish-white with very small rays, the dorsal and anal reclined; first dorsal fin narrow, triangular, second narrower, third a little broader and shorter; pectoral fins narrow, subfalcate, very thin; first ray of the ventral fins long, very thick, bifid; first anal rounded, second nearly triangular; tail forked, the ends rounded.

Dors. 10, 17, 16: *pect.* 19: *vent.* 5: *an.* 23, 19; *caud.* 27 rays.

Saida. Fourth ray of the third dorsal, and fifth ray of the first anal fins longer than the rest; second ray of the ventral fins ending in a long bristle.

Inhabits

Inhabits the *White Sea*: above 8 inches long; is often eaten, though the flesh is dry and tough.

Head somewhat compressed on the fore-part and rounder behind; *crown* black; *jaws* armed with sharp setaceous teeth which are barbed backwards, the upper more obtuse, the lower more pointed and a little longer; *palate* with a double row of teeth; *eyes* large, pupil whitish, iris blueish; *gill-covers* silvery spotted with black, composed of 3 laminae, the lowest lunate, the next elliptical, the third triangular, bicuspidate; *back* convex, slightly channelled on the fore-part, dirty-white with a few confluent blackish spots; *sides* blueish; *lateral line* straight, nearer the back; *belly* white; *dorsal* fins triangular, brown with whitish rays; *anal* oblong triangular, the fore-part of the base dusky-blue; *ventral* whitish at the base; *tail* forked.

Dors. 10—11, 16—17, 20: *pect.* 20: *vent.* 5—6: *an.* 18: 20: *caud.* 24—26 rays.

B. *Dorsal* fins 3; *mouth* without cirri.

Virens. Back greenish; tail forked.

Inhabits plentifully the *Norway seas*; resembles the Pollack, but the *jaws* are equal, the *lateral line* not curved, and the *tail* distinctly bifid.

Dors. 13, 20, 19: *pect.* 17: *vent.* 6: *an.* 24, 20: *caud.* 20 rays.

**Merian-gus.* Back dusky, rest of the body white; upper jaw longer; tail even. *Whiting.*

Inhabits the *European seas*: appears on our coasts in shoals in the spring; is generally about a foot long, and the most delicate food of all its tribe; body long, rounded, covered with small, round, tender, silvery scales.

Head narrowed on the fore-part; *eyes* round, pupil large, black, iris silvery; *teeth* in the upper jaw in numerous rows, the fore ones very long, in the lower a single row; lower jaw with 9—10 punctures; *palate* on the fore-part with a triangular bone each side; *back* olive or brownish; *lateral line* straight; *fins* white, except the caudal and pectoral which are blackish; near the root of the pectoral fin each side a black spot.

Dors. 14, 18, 20: *pect.* 20: *vent.* 6: *an.* 30, 20: *caud.* 30 rays.

**Carbonarius.*

Carbona- Lower jaw longer, lateral line straight.

Coal-fish.

Inhabits the *European* and *Pacific* seas; grows to $2\frac{1}{2}$ feet long; appears about the beginning of July in vast shoals on the Yorkshire coasts; varies much in colour, but grows blacker with its age.

Head narrow; *gill-covers* with a silvery hue mixed with black; *mouth* small, black; *jaws* pointed; *tongue* silvery; *body* covered with thin oblong scales; *lateral line* white; *fins* black, 2 first dorsal and pectoral olive at the base, ventral small; *tail* forked; under the *pectoral* fins a black spot; *flesh* good.

Dors. 14, 20, 22: *pect.* 18: *vent.* 6: *an.* 22, 19: *caud.* 26 rays.

Pollacki- Lower jaw longer; lateral line curved.

Pollack.

Inhabits the rocky coasts of *Europe*; usually about 18 inches long; migrates in great shoals; feeds on lesser fish, and often frolicks near the surface of the water; body above dusky-brown, gradually whitening towards the belly, beneath spotted with brown.

Head narrowed on the fore-part; *tongue* short, sharp, rough on the hind-part; *eyes* large, pupil black, iris yellow spotted with black; *body* covered with small oblong thin scales edged with yellow; *pectoral* fins yellowish, *ventral* orange, *anal* olive spotted with black; *tail* a little forked.

Dors. 13, 19, 18: *pect.* 16: *vent.* 6: *an.* 27, 18: *caud.* 42 rays.

C. Dorsal Fins 2.

Merlucci- Mouth without cirrus; lower jaw longer.

Hake.

Inhabits *Northern* and *Mediterranean* seas; $1\frac{1}{2}$ —2 feet long; is extremely voracious, and migrates in vast shoals; body long, covered with small scales, whitish, above hoary; flesh white, flaky, but not much esteemed.

Head long, depressed and compressed; *mouth* large; *palate* each side with a single, *jaws* with a double row of sharp teeth, in the lower jaw long; *pupil* black, *iris* silvery or golden; *lateral line* curved, with 6—9 small tubercles near the head, nearer the back; *pectoral* and *ventral* fins pointed; first *dorsal* and *anal* lower in the middle; *tail* even.

Dors. 10, 40: *pect.* 12: *vent.* 7: *an.* 29: *caud.* 20 rays.

• *Molva*. Mouth bearded; upper jaw longer.

Long.

Inhabits *Northern seas*: grows to 7 feet long; feeds on fish and crabs; approaches the shores about June to deposit its spawn; is in perfection from February to May, when it is very good; body very narrow and long, above brown, beneath whitish, and yellowish at the sides.

Head large, obtuse; pupil black, iris white; mouth large; tongue white, thin, pointed; body round, covered with thin, oblong, firmly adhering scales; fins edged with white, and all, except the anal which is cinereous, black; dorsal fins with a black spot towards the end.

Dors. 15, 63: pect. 15—20: vent. 6: an. 60: caud. 40 rays.

• *Ibidus*. Chin with a cirrus; ventral fins long, bifid.

Inhabits the *Mediterranean*: 4 inches long; whitish, laterally oblong, slightly compressed.

Head pale-bloody, above flattish, compressed at the sides, with 2 spines behind the eyes; lower jaw shorter, with 7 punctures beneath each side; teeth small, sharp, crowded; eyes large, iris white; lateral line straight; first dorsal fin small, blackish at the top, hinder whitish spotted with black, the edge and hind-part black; anal whitish, the hind-part black; tail rounded, blackish.

Dors. 10, 56: pect. 11: vent. 2: an. 53: caud. 16 rays.

Tau.

Bearded; gill-covers 3-spined; first dorsal fin with 3 rays.

Inhabits *Carolina*: body smooth, mucous, brown, beneath whitish, back and fins spotted with white, and covered with soft, thin, very small, round brown scales, edged with white.

Head large, broad; eyes vertical, large, pupil black, iris golden, with each side a double row of small tubercles; between them and the nape a cavity and transverse yellow streak; palate each side with a double row of teeth, upper jaw with many, lower only two rows of sharp uneven teeth; cirri numerous, on the lower jaw, and disposed in a semilunar manner; gill-covers of 2 pieces, the membrane large, loose; pectoral and ventral fins pointed, the first ray of the hinder ones strong, rigid and very long; first dorsal fin with spinous rays, the other and anal soft, and reaching above the membrane; tail rounded, the rays as well as in the pectoral forked.

Dors. 3, 26: pect. 20: vent 6: an. 22: caud. 16 rays.

• *Lota*.

Lota. Bearded ; jaws equal ; tail nearly oval. *Burbot.*

Inhabits clear fresh waters of *Europe, Siberia* and *India* ; feeds on lesser fish ; grows fast and reaches as far as 8 feet long ; is a very cunning and fertile fish ; body varied with brown and yellow, beneath white, covered with mucus and very small soft scales ; flesh white and excellent.

Head large, broad ; eyes lateral, small, pupil blueish, iris yellow ; mouth large ; jaws with 7 rows of sharp teeth, the lower bearded with 1, rarely 2 cirri, and 3 on the nose ; tongue and gill-membrane broad ; lateral line straight ; dorsal and anal fins long, narrow ; vent in the middle of the belly.

Dors. 14, 68 : pect. 20 : vent. 6 : an. 67 ; caud. 36 rays.

Mustela. Cirri 4 on the upper jaw, 1 on the lower ; first dorsal fin obsolete, lodged in a furrow with a cirrus before it ; no bending lateral line. *Five-bearded Cod.*

Inhabits *European* and *Mediterranean seas* ; 19 inches long ; feeds on testaceous animals and crabs ; body covered with mucus and very small scales, yellowish-brown, beneath white and not spotted as is the next.

Head small, silvery tinged with violet ; pupil black, iris golden ; mouth large ; teeth small, sharp ; upper jaw longer ; tail rounded ; first dorsal fin very narrow.

Dors. 1, 42 : pect. 14 : vent. 7 : an. 40 : caud. 25 rays.

Tricirra. Cirri 2 on the upper jaw, lower 0 ; first dorsal fin obsolete without the cirrus before it ; lateral line angular, curved. *Three-bearded Cod. Rockling.*

2. Cirrus only one, on the lower jaw.

Inhabits with the last, which it much resembles, except that the body is covered with brown spots.

mbrius. Cirri 4 ; first dorsal fin obsolete, the first ray spear-shaped.

Inhabits the *Atlantic* and *Norway seas*.

Cirri 2 on the nose, 1 on the upper lip and 1 on the lower ; first dorsal fin hardly discernable, the first ray subulate, and branched in the form of the letter T, which chiefly distinguishes it from *G. mustela*.

Dors. 1, 48 : pect. 16 : vent. 7 : an. 42 : caud. 25 rays.

D. Dorsal fin only one.

Mediterraneus. Upper jaw with 2 cirri, lower with one.

Inhabits the European and Mediterranean seas.

Dors. 54: pect. 15: vent. 2: an. 44: caud. — rays.

Brosme. Mouth bearded; tail oval, pointed.

Inhabits the southern seas of Greenland.

Dors. 100: pect. 20: vent. 5: an. 600: caud. 30 rays.

Scoticus. Lower jaw with one cirrus; tail rounded; dorsal fin rounded at the upper end. *Scotch Turk.*

Inhabits the Northern seas; about 20 inches long.

Head small; upper jaw a little longer; teeth numerous in both jaws; from the head to the dorsal fin a deep furrow; dorsal fin beginning from the shoulder and reaching almost to the tail; pectoral small, rounded; ventral short, thick, fleshy, ending in 4 cirri; anal long, reaching close to the tail; lateral line hardly discernable. Colour of the head dusky, back and sides yellow, belly white, edges of the dorsal, anal and caudal fins white, other parts dusky; pectoral fins brown.

17. BLENNIUS. Head sloping from the eyes, covered: gill-membrane with 6 rays: body lanceolate, mucous, compressed: ventral fins (generally) of 2 united rays: anal fin distinct.

Blenny.

A. Head crested.

Galerita. Between the eyes a transverse triangular crest, red at the edges. *Crested B.*

Inhabits the European ocean; 4—5 inches long; body brown spotted; skin at the corner of the upper jaw loose, projecting; dorsal fin extending from the head almost to the tail; ventral fin small; vent under the ends of the pectoral fin.

Dors. 22: pect. 10: vent. 2: an. 36: caud. 16 rays.

Crested B.

Cristatus. Crest setaceous, placed longitudinally between the eyes.
Inhabits *South America* and *India*.
Dors. 26 : *pect.* 14 : *vent.* 3 : *an.* 16 : *caud.* 11 rays.

Cornutus. Above the eyes a single ray ; dorsal fin solitary.
Horned B.
Inhabits *India*.
Dors. 33 : *pect.* 15 : *vent.* 2 : *an.* 23 : *caud.* 12 rays.

Ocellaris. Above the eyes a single ray ; first dorsal fin with a large black ocellate spot. *Ocellate B.*
Inhabits the *Mediterranean Sea* ; 8 inches long ; body without scales, dirty-green with olive streaks, rarely pale blue ; flesh eatable, but not in much repute.
Head oblong, large ; eyes large, prominent, pupil black, iris golden ; mouth large ; jaws equal with a single row of small teeth in each ; tongue short, broad ; aperture of the gills large, the cover of one piece ; back convex, blueish ; vent nearer the head ; lateral line nearer the tail ; pectoral fins large, rounded, the rays forked ; anal fin long, narrow, olive with blue spots and white points, the rays simple ; dorsal lower in the middle, olive.
Dors. 11, 15 : *pect.* 12 : *vent.* 2 : *an.* 16 : *caud.* 11 rays.

Fasciatus. Between the eyes 2 simple fins ; anal fin with 19 rays.
Barred B.
Inhabits *India* ; body thick, covered with mucus, above brownish-blue, beneath yellowish, broader on the fore-part and tapering behind, with 4 brown bands, between which are yellowish spaces with brownish lines.
Head small, above brown, beneath yellowish ; jaws equal ; teeth crowded, small, setaceous ; aperture of the gills large ; back convex ; lateral line nearer the back ; vent nearer the head ; fins with brown bands, the rays simple ; pectoral fins rounded, and with the ventral long, narrow, spotted, hyaline ; first ray of the anal spinous ; tail round, cinereous.
Dors. 29 : *pect.* 13 : *vent.* 2 : *an.* 19 : *caud.* 11 rays.

Gattorus. Over each eye a palmate membrane ; lateral line straight.
gine. Inhabits the *European, Mediterranean* and *Atlantic seas* ; 8 inches long ; body waved with brown, beneath cinereous ; flesh good.

Head

Head small; *eyes* vertical, prominent, pupil black, iris reddish; *nostrils* near the eyes; *mouth* large; *teeth* slender, b. taceous, close set; *tongue* short; *palate* smooth; *gill-covers* of one piece; *body* compressed; *lateral line* straight, nearer the back; *vent* nearer the head; *fins* yellowish with simple rays; *dorsal fin* generally with a black spot, the first 16 rays spinous, the hindmost very long.

Dors. 16: *pect.* 13: *vent.* 2: *an.* 21: *caud.* 12 rays.

*Supercili-
ofus.*

Over each eye a palmate membrane; lateral line curved.

Inhabits *India*; *body* long, thick, somewhat compressed, covered with small scales, yellowish, spotted with red; is viviparous and feeds on small crabs.

Head small, thick, without scales; *eyes* lateral, large, round, pupil black, iris silvery with a pendulous trifid fibre between each; *mouth* large; *tongue* short; *palate* soft; *jaws* equal, the upper with a row of remote teeth and behind these many rows of smaller ones; aperture of the *gills* large, the membrane naked, the cover of one piece; *back* carinate; *vent* large, nearer the head; *fins* with simple rays, the dorsal ones spinous, except the 6 last.

Dors. 22: *pect.* 12: *vent.* 2: *an.* 26: *caud.* 12 rays.

*Tentacula-
ris.*

Ray over the eyes single; dorsal fin entire with an eye-like spot on the fore-part.

Inhabits the *Mediterranean*; 2½ inches long; *body* long, whitish, waved with brown spots and lines.

Head obtuse, swelling out at the sides, brown with 3 transverse white bands beneath; *teeth* pectinate; *iris* silvery spotted with red; *dorsal fin* pale, with many brown spots; *anal* subfasciate with white and brown; *pectoral*, *ventral* and *caudal* pale, the rays spotted with brown.

Dors. 34: *pect.* 14: *vent.* 2: *an.* 13: *caud.* 11 rays.

Simus.

Cirrus over the eyes very small; dorsal fin joined to the caudal; lateral line curved.

Body 3½ inches long, smooth and very thin; *mouth* placed beneath; *jaws* arched, the lips membranaceous, very thin and serrate; *teeth* small, crowded, equal, in a single row; *eyes* very large, approximate, prominent; *gill-covers* small, flexible, pellucid, of 2 pieces; *vent* in the middle of the body; at the origin of the *dorsal fin* is a fatty tubercle; *tail* rounded with a few 4—5 rayed spurious fins near it.

Dors. 27: *pect.* 15: *vent.* 2: *an.* 17: *caud.* 15 rays.

* *Phys.*

**Phycis*. Nostrils subcrested; lower lip with a cirrus; back with 2 fins. *Forked Hake*. PENNANT.

2. Body less, black, smooth.

Inhabits *European* and *Mediterranean* seas; about a foot long, 2) 5 inches; body ashy-brown.

Mouth large; *teeth* in the jaws, and a triangular series of smaller ones in the palate; first *dorsal* fin triangular, the first ray long, slender, second beginning just behind the first and extending almost to the tail; *ventral* of 2 rays, joined at the bottom and bifurcated towards the end; *vent* in the middle of the body; *lateral line* curved; *tail* rounded.

Dors. 10, 61: *pect.* 15: *vent.* 2: *an.* 57: *caud.* 30 rays.

B. Head not crested.

**Trifurca*. Ventral fins trifurcated.

Trifurcated Hake.

lus.

Taken near *Beaumaureis* by Mr. DAVIS. Pennant. 3. 196.

Body 12 inches long, deep brown, except the folding of the lips which are snowy; *head* depressed, broad; *eyes* large, irids yellowish; *mouth* wide with irregular rows of curved teeth; *palate* with a semilunar row; *tongue* 0; *body* compressed from the *pectoral* fins and suddenly tapering to the tail; on the beginning of the *back* a cavity, in which is the rudiment of a first *dorsal* fin; second *dorsal* fin reaching to the tail; the *anal* corresponding; above the *pectoral* fin each side a row tubercles, from which commences the *lateral line*, which is curved in the middle.

**Pholis*. Lateral line curved, subbid.

Smooth B.

Inhabits *European* and *Mediterranean* seas; 6—7 inches long; is very active and tenacious of life; feeds on the spawn of other fish, and is generally found under stones; body smooth, mucous and olive-coloured varled with dusky and white spots.

Head thick; *mouth* large; jaws armed with teeth, the upper longer; *lips* thick; *nostrils* round, the hind-ones tubular, fringed with 4 fibres; *tongue* smooth; *palate* rough; *eyes* large, pupil black, iris pale red; *vent* nearer the head; *dorsal* fin long, appearing as if divided in the middle; *rays* of all the fins thick; *pectoral* broad, round; *ventral* split near the ends.

Dors. 28—32: *pect.* 14: *vent.* 2: *an.* 19: *caud.* 10 rays.

**Gunnellus*.

• *Gunnelus*. Dorsal fin with 10 black ocelate spots; instead of the ventral fins 2 minute spines. *Spotted B.*

2. Body nearly linear, tawny; dorsal fin with 5 black and many white ocellate spots. *D.* 50: *p.* 17: *v.* 4: *a.* 38: *c.* 18.

Inhabits the *European* seas, 9, 2) 6 inches long; lurks like the last under stones; swims with great velocity, and feeds on aquatic insects and the spawn of other fish; body mucous like an eel, covered with small scales, sometimes yellowish with paler spots, sometimes brown or olive with dusky or paler spots, beneath white, compressed and very thin; feet not very good.

Head, *pectoral* and *ventral* fins small; *mouth* small, pointing upwards, the lower jaw sloping towards the throat; each jaw with a row of small, sharp teeth; *pupil* black, iris white; *lateral line* straight, obsolete; *vent* nearer the head; *back* keeled; *fins* yellow, long, narrow, with spinous rays and 9—12 ocellate spots; *pectoral* and *anal* orange, the latter spotted with brown at the base; *caudal* yellow.

Dors. 77: *pect.* 10: *vent.* 2: *an.* 43: *caud.* 16.

Musclaria First dorsal fin with 3, second with 43 rays.

Pect. 17: *vent.* 2: *an.* 29: *caud.* 13 rays.

2. First dorsal fin with 3, second with 40 rays.

Pect. 16: *vent.* 2: *an.* 28: *caud.* 12 rays.

Inhabits *India*.

• *Viviparus* Mouth with 2 tentacula; dorsal, anal and caudal fins united. *Viviparous B.*

Inhabits the deeps of the *European* seas; feeds chiefly on crabs; 15 inches long; is viviparous and brings forth 3—400 young at a time; body mucous, varied with yellow and black, and covered with minute, oblong white scales, edged with black; flesh coarse and hardly eatable; the bones shine in the dark and are green when boiled.

Head and *mouth* small; upper jaw longer, armed with small teeth; *lips* strong; *eyes* oblong, *pupil* black, *iris* silvery; *belly* short; *vent* large; *lateral line* straight, obsolete; *dorsal* and *anal* fin yellow; *dorsal* yellowish, with 10—12 black spots and very narrow near the tail; *rays* soft.

Dors. 79: *pect.* 20: *vent.* 2: *an.* 66: *caud.* — rays.

• *Lumpus*.

Lumperus. Back with transverse brown patches; rays of the dorsal fin spinous and arched backwards.

Inhabits deep sandy shores of *Europe*: lurks among sea-wrack; body palish, smooth, with small, round, fixed scales, beneath white, the hind-part yellow.

Head yellowish, narrower than the body.

Dors. 63: pect. 15: vent. 2: an. 41: caud. 19 rays.

Raninus. Ventral fins almost 6-cleft; chin bearded.

Inhabits the lakes of *Sweden*; an intermediate species between the cod and the blenny tribe; it is said that whenever this fish appears, others retire; flesh not eaten.

Dors. 66: pect. 22: vent. 6: an. 60: caud. 30 rays.

2. Chin bearded; 2 rays of the ventral fins long, bristly.

Inhabits *Northern seas*; dark-brown, covered with mucus and small scales, depressed as far as the dorsal fin, and afterwards compressed and tapering.

Head very much depressed and broader than the body; pupil violet, iris tawny; mouth turned up, white within; each jaw with a double row of sharp, reddish teeth; tongue obtuse, fleshy, thick; fins black fleshy soft, dorsal and anal equal, abrupt on the hind-part; 2 first rays of the ventral ending in a long bristle.

Dors. 66: pect. 22: vent. 2: an. 60: caud. 30 rays.

Muraenoides. Gill-membrane 3-rayed; ventral fins of one small spinous ray.

Body compressed, ensiform, smooth, without visible scales, above 6 inches long, ashy-brown, the head and belly whiter; head with minute tubercles; front triangular, a little convex; mouth oblique; jaws equal with 2 rows of teeth; lateral line obsolete: vent in the middle of the body; dorsal fin aculeate; pectoral and caudal oblong; tail equal.

18. KURTUS. Body carinate each side: back elevated: gill-membrane with 2 rays.

Indicus. Kurtus.

Inhabits the *Indian Sea*: feeds on crabs and testaceous animals; body short, slender, golden, and appearing as if covered with silvery plates.

Vol. — 5 B

Head

Head large, compressed, obtuse; *eyes* very large, pupil black, iris above blue, beneath white; *mouth* large; *jaws* with numerous small teeth, the upper something larger and a little curved; *tongue* short, cartilaginous; *palate* smooth; aperture of the *gills* large, the cover membranaceous; *back* spotted with orange, and before the fin are 4 black spots; *lateral line* straight, commencing above the pectoral fin; *vent* near the head, *fins* with forked rays; *pectoral* and *ventral* golden, edged with reddish, the rest blueish at the base and yellow towards the edge, first ray of the dorsal and ventral hard, 2 first of the anal spinous.

Dors. 17: *pect.* 13: *vent.* 6: *an.* 2: *caud.* 18 rays.

ORDER

ORDER III. THORACIC.

Gills bony : ventral fins placed directly under the thorax.

19. CEPOLA. Head roundish, compressed : teeth curved, in a single row : gill-membrane with 6 rays : body ensiform, naked ; the belly hardly as long as the head.

Tania.

Caudal fin tapering, wedged ; head very obtuse.

Inhabits the marshy shores of the *Mediterranean* ; grows to 4—5 feet long ; feeds on crabs and testaceous animals ; body carinate each side, silvery ; back hoary, speckled with red ; very thin and nearly pellucid ; flesh hardly eatable.

Head broadish at the top ; mouth large ; upper jaw with a single, lower with a double row of sharp distant teeth ; tongue thin, broad, rough ; eyes large, vertical, pupil black, iris blueish-silvery ; aperture of the gills large, the cover of one piece with 5 pores before it, and many near the eyes ; lateral line straight ; fins red ; long dorsal and anal with forked rays, the others branched ; pectoral and ventral small.

Dors. 60 : pect. 18 : vent. 6 : an. 58 : caud. 9 rays.

Rubescens. Caudal fin tapering ; jaws sharp pointed.

Inhabits the *Mediterranean*, pale flesh-colour.

Head naked ; teeth sharp ; iris silvery ; dorsal fin beginning at the nape ; vent just behind the ventral fins.

Dors. 68 : pect. 17 : vent. 6 : an. 58 : caud. 12 rays.

Trachyptera. Head sloping ; both jaws arched ; fins prickly, serrate, rough.

Inhabits the *Adriatic* : lateral line straight, with a single row of scales,

20. ECHINEIS. *Head* fat, naked, depressed; above flat, margined, and transversely streaked or grooved: *gill-membrane* with 10 rays: *body* naked.

Remora. Tail forked; head with 18 streaks.

Sucking Fish.

Inhabits the *Mediterranean* and *Pacific* seas; from 12 to 18 inches long; adheres so firmly to the sides of vessels and the larger fish by its head, that it is often removed with difficulty, and was by the ancients supposed to have the power of arresting the motion of the ships it stuck to; body long, thick, mucous; flesh not eaten.

Head acuminate on the fore-part, the plate on the top with 16—19 grooves; *mouth* large; lower *jaw* longer; teeth small, rough like a rasp; *tongue* broad, thin, loose, and as well as the *palate* beset with small teeth; near the upper lip each side are 2 pores, the anterior one tubular, the hinder oval; *eyes* small, pupil black, iris silvery; aperture of the *gills* very large, the membrane loose; *back* convex, black, growing white towards the belly; *lateral line* in the middle of the body, obsolete, beginning at the nape, bent at the end of the pectoral fin and then straight till it reaches to the middle of the tail; *vent* nearer the tail; *fins* small, covered with a thick skin, the rays soft, branched, most of them crowded, edged with brown; *tail* semilunar.

Dors. 21: *pect.* 22: *vent.* 4: *an.* 20: *caud.* 20 rays.

Neurates. Tail entire; head with 24 streaks.

Inhabits most seas; grows to 7 feet long; body green, beneath the lateral line white, slenderer than the last; flesh coarse.

Head moderate; lower *jaw* pointed; *tongue* narrow; iris golden; *skin* naked, perforated with a number of pores; *lateral line* in the middle of the body, white, straight; *fins* yellow, edged with violet; *dorsal* and *anal* very remote from the tail; *vent* nearly in the middle.

Dors. 37: *pect.* 21: *vent.* 5: *an.* 37: *caud.* 16 rays.

Lineata. Tail wedged; head with 10 streaks.

Inhabits

Inhabits the *Pacific ocean*: about 5 inches long; body subulate, smooth, dark-brown, dotted with minute darker spots, or ornamented with 2 whitish longitudinal lines on each side, which begin at the eyes and end in the tail.

Linn. Transf. 1. 187. tab. 17. fig. 1.

Lower jaw a little longer than the upper; teeth minute, in both.

Dors. 35: *pect.* 18: *vent.* 5: *an.* 33: *caud.* 14 rays.

21. CORYPHÆNA. Head sloping suddenly downwards: gill-membrane with 5 rays; dorsal fin as long as the back.

lippuris. Sea-green spotted with orange; tail forked; dorsal fin with 60 rays.

Inhabits the *Mediterranean*; 4—5 feet long, is sometimes erroneously called the dolphin; is very swift, vigorous and voracious, following ships and greedily devouring whatever is thrown overboard; when alive in the water has a fine golden splendour which vanishes when it is dead, body thick, compressed, covered with thin strongly fixed scales; back blue, belly silvery; flesh tolerably good.

Head short, compressed, above blue, greenish at the sides, beneath silvery; eyes round, near the mouth, pupil black, surrounded with a white line, iris orange; mouth large; lips strong; jaws equal, armed with 4 rows of small sharp teeth, curved back; tongue short; aperture of the gills large, the cover of one piece; back convex; lateral line yellow, bending at the end of the pectoral fins and afterwards straight; fins yellow, pale brown at the base; caudal greenish at the edge, anal narrow, entirely yellow, dorsal with yellow rays, and blue membrane.

Pect. 21: *vent.* 6: *an.* 26: *caud.* 18 rays.

Equisetalis Tail forked; dorsal fin with 53 rays.

Inhabits the great *Ocean*; a most beautiful fish.

Pect. 19: *vent.* 6: *an.* 23: *caud.* 20 rays.

Plumieri. Anal fin with 55 rays.

Inhabits

Inhabits round the *East Indian* islands; body long, covered with small scales, above brown with blue curved lines, golden on the sides and silvery beneath; flesh good.

Head oblong, naked, brown, above the eyes yellow with blue lines near them, silvery at the sides; *pupil* black surrounded with a white line, iris red; aperture of the gills large, the cover of one piece and ending in an obtuse angle, the membrane loose and lateral; *back* convex; *vent* near the head, *pectoral* and *ventral* fins short, yellowish at the base and carious at the edge, the rays branched; *dorsal* violet; *anal* long, yellowish, both with simple rays; *caudal* yellow, reddish in the middle and edged with blue, the rays branched, the lateral ones very long.

Dors. 77: *pect.* 11: *vent.* 6: *caud.* 16.

Cerulea. Entirely blue.

Inhabits the *American ocean*; body compressed, above convex and covered with large scales.

Head large, scaly above, on the cheeks and gills; eyes round, large, pupil black, surrounded with a white line, iris yellow; mouth large; teeth strong, sharp; aperture of the gills very large, the cover of one piece; *lateral line* nearer the back; rays of the dorsal and anal fins simple, the rest branched.

Dors. 19: *pect.* 14: *vent.* 5: *an.* 11: *caud.* 19 rays.

Pentadactyla. Near the head 5 black longitudinal spots.

Inhabits rivers of *China* and the *Molucca* islands; about 2 foot long; body slender, obtusely carinate each side, and covered with large scales, above brown and white on the sides; flesh good.

Head large, above brown with a dusky-blue streak on the forehead; eyes vertical, pupil dark blue, iris yellow; jaws with a row of sharp teeth and 2 tusks; lips thin; cheeks covered with small scales; aperture of the gills very large, the cover of 2 large laminæ; spots on the belly small, round, blue, 2 first of those on the back black, surrounded with yellow, the anterior one round, the other oval, the rest blue and less; *lateral line* nearer the back; *vent* nearer the head; *dorsal* fin blueish, edged with orange, the 9 first rays spinous; *ventral* with 2 white spots at the base, and like the *pectoral* and *caudal* orange at the base, edged with violet, the rays branched; *anal* blueish with simple rays.

Dors. 22: *pect.* 11: *vent.* 6: *an.* 3: *caud.* 13 rays.

Nyctiphanes

Noacula. Head and fins cancellate with blue lines.

Inhabits the *Mediterranean* sea. Back sharp.

Pompilus. Back with small yellowish bands above the curved lateral line.

Inhabits the *Ocean*; body fat, tapering behind.

Head obtuse; mouth large, rough within; jaws cohering at the side, the lower ascending; first dorsal fin joined to the second; pectoral fins ending in a point.

Dors. $\frac{9}{31}$: pect. 14: vent. 6: an. $\frac{2}{4}$: caud. 16.

Fasciolata. Milk-white silvery with transverse brown circles running from the bands of the dorsal fin, generally cohering on the back and disappearing on the belly.

Inhabits *Amboina*; 2 inches long; body tapering, a little compressed; back pale grey; a most beautiful fish.

Head conic, flat above; eyes large, iris golden; mouth large; tongue smooth; aperture of the gills very large, the cover of 2 round pieces; lateral line straight, a little prominent; vent. in the middle of the body; pectoral and ventral fins hyaline; dorsal and anal with brown bands; tail deeply forked, with a brown crescent.

Dors. 54: pect. 19: vent. 5: an. 27: caud. 17 rays.

Velifera. Silvery-fish; dorsal and anal fins very large, ventral very small.

Inhabits the southern *Indian Ocean*; body small, flat, thin, equally tapering towards the tail, covered each side with 11 rows of large, thin scales, finely striate, deeply notched at the top and armed at the base with a short recumbent spine.

Head covered with truncate scales; eyes large, iris golden; mouth large, ascending; jaws with subulate incurved teeth, the upper in a single, lower in a double row; dorsal fin beginning from the front, the membrane connecting the rays brown with pale spots, 2 first rays very short, triangular, bony, the rest setaceous, 9—17 very long; pectoral pale, pointed, middle-sized; ventral one-rayed; anal edged with white, the 2 first rays white, bony, the first very long, next long, the rest setaceous, the fifth very long; tail deeply forked, with 3 supporters.

Dors. 55: pect. 14: vent. 1: an. 51: caud. 22 rays.

Pfittacus.

Psettacus. Lateral line intercepted; fins with longitudinal coloured lines.

Inhabits *Carolina*. A very beautiful fish, but the colours vanish after it is dead.

Head finely variegated; iris flame-colour, surrounded with blue; in the middle of the body towards the back a purple rhombic spot varied with green, yellow and blue; vent is in the middle of the body; dorsal and anal fins linear, reaching nearly to the tail.

Dorsf. 2: p. 11: v. 5: a. 16: c. 14 rays.

Acuta. Tail sharp-pointed; lateral line convex.

Inhabits the *Asiatic Sea*.

Dorsf. 45: p. 16: v. 6: a. 9: c. 16 rays.

Sima. Tail entire; lower lip longer.

Inhabits the *Asiatic Sea*.

Dorsf. 32: p. 16: v. 6: a. 16: c. 16.

Virens. Fins with filiform appendages.

Inhabits the *Asiatic Ocean*.

D. 26: p. 16: v. 6: a. 13: c. 16 rays.

Dorsal and anal fins ending in long filiform appendages; one ray of the ventral ending in a thread.

Hemiptera. Jaws nearly equal; dorsal fin short.

Inhabits the *Asiatic Ocean*.

D. 14: p. 15: v. 8: a. 10: c. 18 rays.

Branchiostega. Aperture of the gills a transverse cleft.

Inhabits the *Asiatic Ocean*.

D. 24: p. 15: v. 6: a. 10: c. 16 rays.

Japonica. Yellow; aperture of the gills a transverse cleft.

Inhabits the sea round *Japan*; 6 inches long; covered with thin scales; very nearly allied to the last.

D. 24: p. 14: v. 6: a. —: c. 17 rays.

Clypeata. Bony plates between the eyes.

Inhabits the *Asiatic Seas*.

D. 32: p. 14: v. 5: a. 12: c. 7 rays.

Lineata. Body with transverse coloured lines.

Inhabits

Inhabits *Carolina* ; body covered with large scales.

Head compressed, naked ; 2 *fore-teeth* longer, standing out, distant, in each jaw ; *gill-covers* smooth ; *dorsal* and *anal* fins with coloured lines ; *tail* rounded.

Dors. 1 : *pect.* 11 : *vent.* 6 : *an.* 15 : *caud.* 12 rays.

Rupestis. *Dorsal* fins 2 ; the first ray of the first toothed backwards.

• Inhabits round *Greenland* ; grows to 3 feet long ; body silvery, rough, covered with large hard scales.

Head large, broad above ; *eyes* large, round, pupil black, iris silvery ; before the *eyes* are 4 holes, 2 of them round and 2 oblong ; *mouth* large ; upper *jaw* longer, with 2 cirrus beneath, and armed with 5 rows of sharp teeth, lower with 3 ; *tongue* white, cartilaginous, thick, short, smooth ; *aperture* of the gills large, the cover of one piece ; *vent* nearer the head ; *lateral line* nearer the back ; *back* and *fins* cinereous.

Dors. 11, 124 : *pect.* 19 : *vent.* 7 : *an.* 148 : *caud.* — rays.

22. **GOBIUS.** *Head* small : *eyes* approximate, with 2 punctures between them : *gill-membrane* 4-rayed : *body* small, compressed each side, covered with small scales, with a tubercle behind the vent : *ventral* fins united into a funnel-like oval ; *dorsal* fins 2. *Goby*.

These lie chiefly under stones ; feed on worms, insects and the spawn and young fry of other fish ; they stick firmly to rocks by the funnel-shaped ventral fins ; *mouth* small ; *jaws* armed with small sharp teeth ; *tongue* short, obtuse ; *palate* rough, with 4 bones ; *aperture* of the *gills* narrow, rounded ; *lateral line* in the middle of the body.

Niger.

Second dorsal fin with 14 rays.

Black G.

Inhabits the *European* and *Asiatic* seas ; 5—6 inches long ; body deep brown, or whitish with deep brown and yellow spots ; flesh very good.

Head compressed towards the lower parts ; *eyes* nearly round, pupil black, iris silvery ; *jaws* equal, with 2 rows of teeth ; *tongue* loose ; *body* covered with hard cinereous scales ; *back*

Vol. I. — 5 C

convex,

convex, banded with black; *lateral line* obsolete; from the head to the first dorsal fin a small cavity; *belly* yellowish; *vent* in the middle of the body; *fins* glaucous, spotted with black, the rays soft; *dorsal* and *anal* simple, the others cleft; middle ray of the *pectoral* longest; *tail* rounded.

Dors. 6, 14: *pect.* 18: *vent.* 10: *an.* 11: *caud.* 14 rays.

Bicolor. Brown; all the fins black.

Two-coloured G.

Inhabits the *Mediterranean*; 3 inches long; the rays of the fins hardly reaching above the connecting membrane.

Dors. 6, 16: *pect.* 19: *vent.* 12: *an.* 15: *caud.* 17 rays.

Cruentatus Mouth pustulate with red; rays of the dorsal fins reaching above the membrane.

Bloody-spotted G.

Inhabits the *Mediterranean*: a span long; body pale with obsolete brown bands.

Mouth, gill-covers, chin and fins pustulate with blood-red spots; beneath the eyes a transverse membranaceous line, and 2 other longitudinal ones before the dorsal fin; fins mostly brownish, the rays setaceous; *pectoral* rounded; *ventral* blueish, the rays split at the end; *caudal* pointed like a compass and sub-fasciate with black.

Dors. 6, 16: *pect.* 19: *vent.* 12: *an.* 15: *caud.* 15 rays.

Paganellus Caudal and second dorsal fins purplish at the base; the first dorsal fin edged with a yellowish line.

Inhabits the *Mediterranean* sea.

Dors. 6, 17: *pect.* 17: *vent.* 12: *an.* 16: *caud.* 20 rays.

Arabicus. The 5 posterior rays of the first dorsal fin terminating in a red filament, twice as long as the membrane.

Arabian G.

Inhabits *Djidda* in *Arabia*; size of the little finger; body greenish-brown, with numerous confluent violet spots and blue specks.

Skin very soft, covered with minute firm scales; all the fins spotted; *tail* wedged.

Dors. 6, 14: *pect.* 16: *vent.* 12: *an.* 13: *caud.* 17 rays.

Nebulosus. Second ray of the first dorsal fin ending in a black filament twice as long as the body.

Inhabits *Arabia*: 3 inches long; body whitish with brown clouded confluent spots, beneath white without spots.

Str.

Skin covered with large, rhombic, rigid scales; pupil blueish, iris white; pectoral fins glaucous with obsolete brown spots at the base; ventral brownish; dorsal and rounded caudal hyaline, dotted with brown; anal hyaline, the outer edge black.

Dors. 16, 11: pect. 18: vent. 12: an. 11: caud. 14 rays.

Electris. Anal fin with 9 rays; tail roundish. *Chinese G.*
Inhabits China.

Dors. 6, 11: pect. 20: vent. 10: an. 9: caud. 10 rays.

**Minutus.* Whitish spotted with ferruginous; rays of the dorsal and caudal fins obscurely streaked with ferruginous.

Spotted G.

Inhabits the coasts of Europe: 3 inches long.

Head depressed; snout blunt; eyes large, prominent, iris sapphire; tongue large; teeth in both jaws; dorsal fins remote; tail even.

Dors. 6, 11: an. 11 rays.

Aphyæ. Body and fins with brown bars.

Inhabits the Nile and Mediterranean.

Dors. 6, 16: pect. 18: vent. 12: an. 14: caud. 13 rays.

Jazo. Rays of the dorsal fins setaceous, reaching above the membrane.

Inhabits the shores of the European and Mediterranean seas; 4—6 inches long; body above brown, beneath whitish, covered with scales; flesh hardly eatable.

Head compressed; pupil black, iris white; back a little arched; jaws equal; lateral line straight, blackish, in the middle of the body; ventral fin blue.

Dors. 6, 13: pect. 16: vent. 12: an. 13: caud. 14 rays.

Pectinirostris. Teeth in the lower jaw horizontal. *Pectinated G.*
Inhabits China.

Dors. 5, 26: pect. 19: vent. 12: an. 25: caud. 15 rays.

Barbatus. Pectoral fins fan-shaped; first dorsal fin with 12, second with 13 rays.

Schlosseri. Blackish-brown, beneath whitish; rays of the first dorsal fin spinous.

5 C 2

Inhabits

Inhabits the lakes of *Amboina*; is very fat, and about a span long; when pursued by other fish, hides itself in the mud; body a little compressed, and hardly decreasing towards the tail, covered with large, round, coriaceous scales.

Head sloping, long, much thicker than the body and nearly square; *front* unequal; *mouth* transverse; *lips* thick, fleshy, granulous within, the upper one doubled in; *teeth* large, unequal, distant, irregularly alternate; *palate* fleshy; *tongue* thick, fleshy; soft; *eyes* vertical, placed forwards, prominent, the pupils turned to the sides, with a large lunate cavity beneath each; *gill-cover* oblong, scaly; most of the rays of the fins branched; *pectoral* placed on a fleshy, scaly base; *caudal* with the 3 outmost rays branched; *tail* oval-acute; *lateral line* 0; *vent* in the middle of the body.

Dors. 8, 13: *pect.* 16: *vent.* 12: *an.* 12: *caud.* 19 rays.

Melanuros Dorsal fin single; tail black.

Anguillaris. Dorsal fin single; tail red.

Inhabits *China*; body fat, slippery like an eel.

Teeth standing out of the mouth; *fins* all red; *dorsal* and *caudal* joined to the *caudal*; *pectoral* very small, rounded.

Dors. 52: *pect.* 12: *vent.* 10: *an.* 43: *caud.* 12 rays.

Boddarti. Rays of the anterior dorsal fin cirriform, the third very long.

Inhabits the *Indian* ocean; about 6 inches long; body blackish-brown, beneath pale yellow, fat, convex, hardly tapering towards the tail, and covered with small soft scales.

Head thick, blunt, subconvex, with white and brown spots; *crown* convex, gradually sloping down; *jaws* nearly equal; *lips* thick, fleshy; *eyes* vertical, oblong; *gill-membrane* black; *lateral line* with hardly visible papillæ and a few snowy spots; *back* with 7 brown spots each side, and many white dots on the sides; *vent* a little nearer the head, surrounded with a black circle, behind which is a conical duncle; *dorsal* fins blueish-black, the membrane of the first spotted with white, the other with setaceous rays, and transverse white lines between each ray; *pectoral* rounded; *tail* blueish-white.

Dors. 5, 25: *pect.* 21: *vent.* 34: *an.* 25: *caud.* 18 rays.

Lagocephalus.

Upper jaw hemispherical; tongue and lateral line 0.

Body round, compressed towards the tail; size of a finger; grey or dark brown, covered with minute scales.

Head short, thick, without scales; *mouth* transverse; upper *jaw* very thick, lower with a few larger teeth which are a little hooked; *lips* cleft in the middle, doubled, the upper fleshy and very thick, reaching much beyond the jaw; *palate* with numerous crowded small teeth on the margin; *eyes* distant, small, covered with the common skin; rays of the first *dorsal* fin simple, of the other and *tail* branched; *tail* oval-rounded; *pectoral* lanceolate-oval; *ventral* with very short crowded rays; *vent* in the middle of the body.

Dors. 6, 11 : *pect.* 15 : *vent.* 8 : *an.* 10 : *caud.* 12 rays.

Cyprinoides.

Body covered with large subciliate scales; tail rounded; the membrane connecting the rays tessellate with brown.

Inhabits *Amboina* : size of a finger; body compressed, thickish, convex, grey-brown, beneath whiter.

Head a little thicker than the body, skin soft, cancellate with fine lines; *teeth* subequal, minute; *tongue* flat, soft, obtuse; *eyes* lateral, and between them a blackish, semilanceolate crest or fold; rays of the fins mostly branched; first *dorsal* broader, with simple rays; *pectoral* broad; first ray of the *anal* simple; *lateral line* obsolete; peduncle near the vent, tapering, rather obtuse and lying in a cavity.

Dors. 6, 10 : *pect.* 18 : *vent.* 12 : *an.* 10 : *caud.* 15 rays.

Lanceolatus.

Tail very long; sharp-pointed.

Inhabits the rivers and brooks of *Martinico* : body oblong, covered with round imbricate scales which are larger on the hind-part; beneath cinereous; flesh good.

Head oblong, truncate; *eyes* vertical, pupil black, iris golden; *jaws* equal; *tongue* loose, acute; *cheeks* blueish, edged with red; aperture of the *gills* large, the cover of 2 pieces; *lateral line* in the middle of the body; *vent* nearer the head; *dorsal* and *anal* fins with simple, soft, distant rays, connected by a thin pellucid membrane; rays of the first *dorsal* reaching far beyond the membrane; between the dorsal fins each side a brown spot; rays of the other fins split at the ends; *pectoral* yellow, edged with blue; *tail* greenish-yellow at the base, and edged with violet.

Dors. 6, 18 : *pect.* 16 : *vent.* 11 : *an.* 16 : *caud.* 20 rays.

Plumieri.

Plumieri. Upper jaw prominent.

Inhabits the *Caribbee Islands*; body round, fleshy, above tawny, yellow at the sides, beneath white, covered with small scales; flesh good and tender.

Head large; pupil black, iris silvery; aperture of the gill large, the cover of one piece; vent in the middle of the body; lateral line straight; fins yellow; pectoral and caudal yellow at the edge, the rays branched; dorsal and anal with simple rays.

Dors. 6, 12: pect. 12: vent 6: an. 10: caud. 14 rays.

Ocellaris. Upper jaw longer; first dorsal fin 6-rayed, with a black ocellate spot near the base on the hind-part.

Inhabits fresh water rivers of *Otaheite*: body compressed, lanceolate, covered on the hind-part with imbricate, close scales, obscurely clouded with olive and black, beneath glaucous.

Head a little compressed, subconic, blackish, above slightly curved, obtusely carinate in the middle, beneath straight; flat; eyes looking obliquely upwards, pupil black, iris glaucous; teeth unequal, minute, those of the lower jaw less; lateral line nearly in the middle, straight, obsolete; vent placed a little behind; fins generally with split rays, the connecting membrane diaphanous; pectoral and ventral blackish; first dorsal short, waved with olive and brown, the rays simple, setaceous at the tips and curved back, second long, greenish, dirty-red at the tip, the rays annulate with green and brown, first ray simple; anal long, greenish-brown, hyaline at the tip; tail oval, greenish, the rays simple.

Dors. 6, 11: pect. 16: vent. 6: an. 11: caud. 22 rays.

Strigatus. Ventral fin divided; first caudal fin 6-rayed.

Inhabits the *Pacific Ocean* near *Otaheite*; body compressed, lanceolate, covered with imbricate, subquadrate, oblique crenate scales; subpellucid, pale greenish-blue, beneath whitish, with brownish streaks behind the pectoral fin; beneath the lateral line on the hind-part, varied with obsolete reddish spots.

Head compressed, yellow, streaked and spotted, above greenish-yellow, the hind-part broader than the body; mouth large; lower jaw a little shorter; palate and tongue smooth; jaws armed with sharp linear teeth turned inwards; eyes oblique; pupil black, iris silvery-green; rays of the fins mostly simple at the ends; dorsal, pectoral and ventral pellucid; dorsal green with narrow fillets, which with the rays are red, the

first fin is short, and has 4, the other long with 9 of these fillets; *pectoral* pale greenish, the marginal rays shorter and simple; *ventral* whitish; *anal* long, greenish-red; *tail* round-oval, yellowish-green, the rays red, simple, with a broad oblique, slightly curved, reddish fillet each side.

Dors. 6, 20: *pect.* 20: *vent.* 12: *an.* 19: *caud.* 22 rays.

celreuteri Ventral fins divided; first dorsal fin 11-rayed.

Body about 9 inches long, soft, fat, whitish-grey; *head* loughish, thick, convex on the front; *eyes* on the top of the head, iris silvery-brown; *lips* doubled, fleshy; *teeth* unequal, conic, the fore-ones larger, one larger above each side; aperture of the *gills* lunate; *lateral line* appearing as if impressed; *vent* about the middle of the body with a peduncle behind it; *fins* soft; the first *dorsal* large, brown, with a black terminal band, the rays spinous, the second narrower, yellowish, with a longitudinal deep brown band, the rays branched; *pectoral* fan-shaped or oval, placed on a broad pedicel; *tail* oval-lanced, the rays branched.

Dors. 11, 13: *pect.* 13: *vent.* 12: *an.* 11: *caud.* 11 rays.

ronovii. Ventral fins divided; first dorsal fin 10-rayed; tail forked.

Inhabits *South American* seas; body silvery, above black, spotted with black at the sides, and covered with small imbricate scales.

Head naked; *eyes* large, lateral; *mouth* narrow; *teeth* equal, in the jaws and palate; *tongue* rounded, thin, smooth; *gill-covers* smooth, roundish; *back* a little convex; *lateral line* curved, parallel to the back; *vent* in the middle of the body; rays of the *fins* unarmed.

Dors. 10, 30: *pect.* 24: *vent.* 10: *an.* —: *caud.* — rays.

jonis. Ventral fins divided; lower jaw longer.

Inhabits *South America*. Head depressed.

23. **COTTUS.** *Head* broader than the body, spinous: *eyes* vertical, furnished with a nictitant membrane: *gill-membrane* 6-rayed: *body* round, without scales, tapering towards the tail: *dorsal* fins one or more. *Bull-head.*

•*Cataphractus.*

Body octangular, mailed; upper jaw with 2 upright bony spines; throat with numerous cirri.

Pogge. Armed B.

Inhabits the *European* coasts; 6 inches long; feeds on small crabs and other aquatic insects; body brown, beneath white.

Head large, bony, rugged; *eyes* lateral, round, pupil black, iris yellow; *mouth* beneath, lunate; upper jaw longer; teeth numerous, small, both in the jaws and palate; tongue broad, thin; aperture of the *gills* large, the covers of one piece; *body* covered with strong, bony crusts, divided into pieces the ends of which project into a sharp point, forming prickly lines down the back and sides; *back* with 3 or 4 black spots; *lateral line* in the middle of the body, straight; *vent* near the head; *dorsal* fins 2, the rays of the first spinous, of the second soft, both cinereous with square black spots; *pectoral* roundish, hoary, large, spotted with black; *ventral* narrow, long; *anal* black at the base; *tail* rounded, the rays branched.

Dors. 5, 7: *pect.* 16: *vent.* 2: *an.* 7: *caud.* 11 rays.

Quadriconis. Four bony protuberances in the middle of the head.

Four-horned B.

Inhabits the *Baltic* and *Greenland* seas; ascends rivers and feeds on worms and insects; is a bold voracious fish; body dusky, clouded with brown, beneath dirty-yellow; the *pectoral* fins very large, which it is perpetually agitating.

Female more dusky, beneath yellow-brown.

Dors. 9, 14: *pect.* 17: *vent.* 4: *an.* 14: *caud.* 12 rays.

Grunniens. Body smooth; throat with numerous cirri.

Squeaking B.
Inhabits

Inhabits *India* and *South America*; makes a squeaking noise when it is handled; body brown with numerous punctures, the sides varied with white and brown; flesh good, except the liver which is poisonous, especially in the summer months.

Head large; *eyes* small, pupil black, iris red; *mouth* very large; *tongue* broad, and with the *palate* smooth; lower *jaw* longer; *teeth* sharp, distant, curved inwards; aperture of the *gills* very large, the cover of one piece, armed with 4 spines, the membrane loose; *vent* in the middle of the body; *fins* spotted with brown, the rays generally branched; *pectoral* and *ventral* reddish, the rest cinereous; *ventral* and *dorsal* with simple rays, the 2 anterior rays of the first dorsal spinous.

Dors. 3, 20: *pect.* 22: *vent.* 4: *an.* 16; *caud.* 11 rays.

Scaber.

Head and lines down the body with ferrate scales; lateral line aculeate. *Prickly B.*

Inhabits *India*; feeds on testaceous animals and crabs; body compressed, silvery, girded with 6 reddish bands, and covered with small, hard, toothed, firmly sticking scales.

Head oblong, with 4 spines turned back, and covered with small, rough scales at the sides; *eyes* vertical, oblong, pupil black, iris silvery; lower *jaw* longer, *teeth* in each; *tongue* broad, thin; *mouth* and aperture of the *gills* large; *lateral line* rough with prickles turned back; *vent* in the middle of the body; *rays* of the *fins* mostly split; *pectoral* short, broad, yellow at the base, with variegated rays; *ventral* long, blueish, with 3 yellow bars; first *dorsal* tawny, with simple spinous rays, the other *fins* blueish with variegated rays.

Dors. 9, 11: *pect.* 2: *vent.* 6: *an.* 11: *caud.* 12 rays.

Storpius. *Head* armed with numerous large spines; upper *jaw* a little longer. *Father Lasher.*

Inhabits deep places near the shores of *Europe*, *Newfoundland* and *Greenland*; is very fierce and swift; seldom with us exceeding 9 or 10 inches; follows sharks and other large predacious fish, lashing them with its spines, which it is able to distend in a formidable manner, till they are forced to abandon its haunts; body compressed, tapering towards the tail, covered with small spines, above brown with white dots and lines, beneath whitish; the flesh is eaten by the *Greenlanders*.

Head with 2 soft, large tubercles before the eyes; *eyes* large, oblong, vertical, pupil black, iris pale yellow; *cheeks* compressed; *mouth* very large; both *jaws* able to be protruded

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and retracted, and with the *palate* armed with teeth; *tongue* short, thick, hard; aperture of the *gills* large, the cover is 2 pieces; *lateral line* straight, nearer the back; *vent* in the middle; *fins* red spotted with white; female white streaked with black, the rays simple; *ventral* long; *tail* rounded, the rays cleft; first *dorsal* with spinous rays.

Dors. 9, 16: *pect.* 16: *vent.* 3: *an.* 12: *caud.* 12 rays.

**Gobio.*

Smooth; gill-covers with a crooked spine turning inwards.

Miller's-thumb. River B.

Inhabits clear brooks of *Europe* and *Siberia*; grows to 7 inches long; conceals itself either among the gravel or under a stone; feeds on aquatic insects, and the spawn or young of fish; is like the others of its tribe, a very voracious fish; body mucous, tapering, covered with small, round tubercles, brown, spotted with black, (male cinereous spotted with brown) beneath white; flesh good and whole, but it gets red by boiling.

Eyes small, in the middle of the head, pupil black, iris yellow; *jaws* equal; *teeth* small, both in the jaws and palate; *tongue* loose, smooth; *gill-cover* of one piece, the membrane broad; *lateral line* in the middle; *vent* about the middle; *fin* blueish, spotted with black, the rays simple; (female *ventral* varied with yellow and brown) *ventral* long; *tail* short, rounded, the rays branched.

Dors. 7, 18: *pect.* 14: *vent.* 4: *an.* 13: *caud.* 10 rays.

Japonicus Body octangular, mailed with prickly bony scales; cirri 6.

Japan B.

Inhabits the seas round *Japan* and the *Kurile Islands*; about a foot long; body yellowish-white, back brownish, beneath very rough.

Head long, depressed behind and broad, narrowed and obtuse on the fore-part, and covered with a biangular plate above the jaws, which are moveable; *mouth* small; before the *nostrils* a small recurved spine; *eyes* large, pupil black, iris silvery, with a golden hue; *gill-cover* lunate, the membrane rough; *vent* nearer the head; *fins* with brown serpentine streaks, the rays very rough and simple; large *pectoral* and *tail* rounded.

Dors. 6, 10: *pect.* 12: *vent.* 2: *an.* 8: *caud.* 12 rays.

Insidiator. Head with sharp lines above, and 2 spines at the sides.

Crafty B.

Inhabits

Inhabits *Arabia*; above a foot long; hides itself under the sand for the purpose of enticing other fish within its reach; body depressed, tapering, above grey with brown points and spots, beneath white.

Tail white with a yellow bifid spot in the middle, and 2 unequal black oblique linear ones.

Dors. 11, 12, 13: pect. 19: vent. 6: an. 14: caud. 15 rays.

affiliensis Head armed with numerous spines; dorsal fins united.

Inhabits the *Mediterranean*; resembles *C. scorpius*.

Within each eye a cavity; rays of the dorsal fins spinous.

Dors. 11: pect. 17: vent. 6: an. 13: caud. 12 rays.

onopterygius. Head unarmed; dorsal fin single.

Inhabits *Tranquebar*: body narrow, long, octangular, behind, hexangular, above brown, the sides cinereous with brown spots and bars, beneath spotted with white

Eyes very large, oblong, vertical, pupil black, iris silvery; upper jaw longer, with 2 recurved spines; aperture of the gills very large, the cover of one piece; body broad on the fore-part, mailed with 8-sided scales; vent nearer the head; fins cinereous, the rays mostly split; pectoral long, broad, spotted with brown; tail round, spotted with brown; ventral narrow, the rays simple; dorsal and anal short.

Dors. 5: pect. 4: vent. 2: an. 5: caud. 6 rays.

24. SCORPÆNA. Head large, aculeate, cirrous, obtuse, without scales, sub-compressed: eyes near each other: teeth in the jaws and palate: gill-membrane 7-rayed: body thick, fleshy: dorsal fin single, long, the anterior rays spinous.

scorpius. Cirri near the eyes and nostrils.

Inhabits in shoals the *Mediterranean*; hides itself among the sea-weed and preys on fish or crabs; when touched erects and wounds with the spines of the dorsal fin; above a foot long; body brown, the sides spotted above with black, beneath white; belly reddish.

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Head

Head large; *eyes* large, vertical, pupil black surrounded with a golden line; *iris* red; *mouth* large; *jaws* with many rows of small sharp teeth; *palate* rough; *tongue* short, smooth; aperture of the *gills* large, the cover with a few spines and 3 cirri; *lateral line* straight, nearer the back; *vent* nearer the tail; *fins* reddish spotted with brown, the rays mostly branched; *dorsal* long, half brown, with 12 strong recurved spines; *pectoral* cinereous, the rays bifid; *ventral* without spots, the first ray spinous; 3 first rays of the *anal* spinous; rays of the *pectoral* yellow, spotted with black.

Dors. 12: *pect.* 18: *vent.* 7: *an.* 3: *caud.* 15 rays.

Scrofa. Lower lip with 2 cirri.

Inhabits the *Atlantic*, *Mediterranean* and *Northern* seas; 3-4 yards long; a most voracious fish, preying not only on other fish, but also on sea-birds; body whitish-tawny, spotted with brown and covered with large scales; flesh eaten in *Italy*.

Head large; *eyes* very large, pupil black, *iris* yellow or reddish, with 4 brown rays, above them 3 cirri; *mouth* large; *cheeks* and lower *jaw* cirrous; *jaws* equal, and with the *tongue* and *palate* armed with sharp recurved teeth; aperture of the *gills* large, the cover with 2 large and many smaller spines; *lateral line* parallel to and nearer to the back, rough with cirri; *vent* nearer the tail; *back* brown; *fins* blueish, the rays varied with yellow and brown, and mostly forked; *ventral* fleshy.

Dors. 12: *pect.* 19: *vent.* 6: *an.* 6: *caud.* 12 rays.

Horrida. Body beset with callous tubercles.

Inhabits *India*; body variegated with brown and white, devoid of small scale, and on all sides rough with cirri.

Head large, covered with tubercles and prickles, and disfigured by cavities; *eyes* small, pupil black, *iris* yellow, placed above a deep hollow; *mouth* above, large; *jaws* armed with many small teeth, the lower horse-shoe shaped, the upper convex; *tongue* broad, loose, rounded, and with the *palate* smooth; inside of the *mouth* with numerous small sharp teeth; aperture of the *gills* very large; *lateral line* beginning at the nape, and bent downwards near the anal fin, and ending in the middle of the tail; *fins* covered with a thick skin, the rays forked.

Dors. 12: *pect.* 15: *vent.* 6: *an.* 3: *caud.* 12 rays.

Volitans. Pectoral fins larger than the body.

Inhabits

Inhabits the fresh waters of *Amboina* and *Japan*; less than the river perch; has the power of raising itself out of the water and suspending itself in the air a short time, by means of its long pectoral fins, when pursued by larger fish; body varied with brown bands and intermediate orange and white lines, and covered with small imbricate scales; flesh delicious.

Head sloping, broader on the fore-part, and covered with cirri and prickles; *pupil* black, iris white, with blue and black rays; *mouth* large; *jaws* equal, with numerous small sharp teeth; *tongue* loose, thin, pointed; aperture of the *gills* large, the covers scaly; *lateral line* formed of many elevated lines and white points, beginning at the eye; *fins* generally with numerous forked rays; *pectoral* simple, the connecting membrane violet, spotted with white; 12 first rays of the *dorsal* spinous, varied with brown and yellow, the other rays black, spotted with yellow; *ventral* violet, spotted with white.

Dors. 14: *pect.* 14: *vent.* 6: *an.* 3: *caud.* 12 rays.

Antennata With an ocular band.

Inhabits rivers of *Amboina*; flesh very good.

Very much resembles the last, but the *head* is less sloping, and varied with numerous streaks and bands; *eyes* larger, the *cirri* over them round; bones of the upper *lip* as long again; *chin* white; beneath the *eye* a double row of prickles; *nostrils* double, near the eyes; *pectoral* fins less and paler; *bands* on the body broader, and the *scales* larger.

Dors. 15: *pect.* 17: *vent.* 6: *an.* 3: *caud.* 12 rays.

Didactyla. Two distinct appendages near the pectoral fins.

Inhabits the *Indian* ocean; about a foot long; body lurid, brown, with a few yellow blotches above and yellow spots beneath, without scales.

Head depressed; *snout* truncate, with 2 cavities between it and the eyes; *eyes* vertical; *mouth* transverse; lower *jaw* longer; *teeth* in both jaws, palate and inside of the mouth; *tongue* prominent, with yellow granulations and black blotches; *cirri* fleshy, a very large one each side on the lower jaw; *lateral line* parallel with the back; *vent* behind the end of the *ventral* fins; *fins* with numerous rays terminating in filaments;

ments; *pectoral* large, oval, and with the rounded tail barred with black; *dorsal* reaching from the head to the tail.

Dors. 16: *pect.* 10: *vent.* 6: *an.* 12: *caud.* 12 rays.

Capensis. Head each side above the eyes 4-toothed; tail subequal.

Inhabits near the *Cape of Good Hope*; 11 inches long; body covered with small, rough, imbricate scales.

Head large, convex, a little sloping above; *eyes* large, lateral, round, covered with the common skin; *mouth* very large; *jaws* equal; *gill-covers* very large, scaly, the upper *laminæ* 4-toothed, the lower pointed behind; *back* carinate, arched; *lateral line* straight, nearer the back; *rays* of the *fin* branched; *dorsal* reaching from the region of the *gill-covers* to the tail; *pectoral* oval, large.

Dors. 18: *pect.* 18: *vent.* 6: *an.* 9: *caud.* 12 rays.

Spinosa. Lateral line spinous; body compressed.

Americana Pectoral fins nearly orbicular.

25. ZEUS. *Head* compressed, sloping down; upper lip arched by a transverse membrane: *tongue* subulate: *gill-membrane* with 7 perpendicular rays, the lower transverse: *body* compressed, thin, shining: *rays* of the first *dorsal fin* (mostly) filamentous.

Vomer. Tail forked; a recumbent spine before the caudal, anal and dorsal fin.

Inhabits the sea round *Brasil* and *Norway*; about 6 inches long; body silvery, blueish or purplish; flesh tolerably good.

Head

Head narrow, long; *eyes* round, pupil black, iris silvery and red; *lower jaw* longer; *teeth* very small and sharp, in both jaws; aperture of the *gills* large, the cover of one simple narrow piece; *lateral line* beginning from the cover and arched towards the back; *vent* behind the ventral fins which are narrow; *fins* blue, the rays chiefly bifid; *pectoral* and *ventral* with branched rays.

Dors. 8, $\frac{1}{2}$: *pect.* 18: *vent.* 5: *an.* $\frac{1}{2}$: *caud.* 23 rays.

Adiator. Mouth narrow.

Inhabits fresh waters of *India*; swims near the surface of the water and feeds on aquatic insects, which it catches by sucking water into its gills and casting it forcibly through its mouth, by which means their wings are wetted and they become incapable of flying away; skin thin, silvery, without scales.

Head small; *iris* silvery-yellow; *jaws* with small sharp teeth; aperture of the *gills* very large, the cover of 2 pieces; *lateral line* nearer the back, and interrupted at the end of the dorsal fin; *vent* just behind the ventral fins; *sides* silvery, spotted with black; *back* brown, spotted with black, the edge with a double row of recurved prickles, and a hollow to receive the dorsal fin; first 7 rays of the *dorsal*, 3 first of the *anal*, and fourth of the *ventral* spinous, the rest soft, split at the tip; *pectoral* and *caudal* branched.

Dors. $\frac{7}{2}$: *pect.* 16: *vent.* $\frac{1}{2}$: *an.* $\frac{3}{2}$: *caud.* 18 rays.

lus. Tenth ray of the dorsal fin and second of the anal longer than the body.

Inhabits *American* and *Indian* seas; 6 inches long; body very thin, without scales, greenish-silvery; feeds on worms and marine insects; flesh very good.

Head large; *eyes* large, round, pupil black, iris silvery-brown; *mouth* large; *jaws* with small teeth; upper *lip* with 2 broad bones; aperture of the *gills* large, the covers long, of one piece; *lateral line* arched from its origin; *vent* just behind the ventral fins; *fins* fine green; of the *dorsal* 9, of the *anal* the 10 hindmost rays split at the ends, all the rest branched.

Dors. $\frac{9}{2}$: *pect.* 16: *vent.* 6: *an.* $\frac{1}{2}$: *caud.* 24 rays.

aris. First 11 rays of the dorsal fin very short, 6 next very long; first ray of the anal short; 6 next very long.

Inhabits

Inhabits *India*; body very thin, naked, silvery, arched above and below; back blueish; flesh hardly eatable.

Head small; eyes large, round, pupil black, iris silvery; jaws with short, sharp teeth, the lower jaw longer; upper lip with 2 long, broad bones; aperture of the gills large, the cover yellow, of 2 pieces; fins brown; ventral long, pectoral narrow; tail divided; the rays of them all branched.

Dors. 30: *pect.* 17: *vent.* 5: *an.* 19: *caud.* 21 rays.

• *Faber.* Tail rounded; sides with an oval, brown, ocellate spot in the middle; anal fins 2. *John Doria.*

Inhabits most seas, and grows to $1\frac{1}{2}$ foot long; body above deep brown, the sides olive, varied with light blue and white; while living it is very resplendent and appears as if gilt, on which account it has received its European name of *Doria*: it is covered with minute scales, and the flesh is excellent.

Head large, deformed, the snout very much projecting, with a deep cavity before the eyes; eyes large, vertical, approximate, pupil black, iris silvery; jaws retractile, armed with small teeth turned inwards; aperture of the gills very large, the covers of 2 pieces; chin and shoulders with 2 spines; back and hind-part of the belly serrate with spines; lateral line bending with the curvature of the back; pectoral short, rounded, cinereous, edged with yellow, the rays also in the ventral branched; membrane connecting the rays in the dorsal and anal fins blackish, the rays simple; caudal rounded, with yellow rays; first dorsal fin with spines, rays, terminating in long filaments.

Dors. 10, 33: *pect.* 13: *vent.* 4: *an.* 4: *caud.* 13 rays.

Aper. Tail even; body reddish; snout reflected.

Inhabits round *Rome* and *Genoa*.

Dors. 9, 23: *pect.* 14: *vent.* 6: *an.* 3: *caud.* — rays.

• *Luna.* Tail somewhat lunate; body beautifully red, green, or purple, with oval white spots. *Opah. King-fish.*

Inhabits the coast of *Normandy*; rarely found on the *Brittany*; above 3 feet long; is of all European fish the most rich and splendid in its colours; body very deep from the back to the chest, and tapering very small to the tail, covered with hardly visible scales.

Head short, rounded, red, with golden patches; eyes large; teeth very small; mouth large; fins scarlet.

Quadrifid.

adratus Tail equal; body cinereous, transversely barred with black.

Inhabits *Jamaica*; 5 inches long; body scaly, and gradually tapering towards each end.

Eyes large, pupil black, iris white; mouth small; teeth small, sharp, disposed in rows; tongue round, cartilaginous; lateral line curved; first ray of the fore dorsal fin black, broader and longer, the rest spinous.

26. PLEURONECTES. Head small: eyes sphaerical, both on the same side of the head, and near each other: mouth arched: jaws unequal, toothed: gill-membrane with 4—7 rays; the cover (mostly) of 3 laminæ: body convex and coloured above, flat and paler beneath: vent nearer the head.

This genus comprehends those which are commonly called flat-fish; they swim constantly obliquely and reside at the bottom of the water, from their wanting the air-bladder; they often bury themselves in the sand as far as the head, by which they escape the jaws of the more rapacious tribes; the eyes are covered with a nictitant membrane; nostrils double and contiguous; belly without ribs; fins soft, and mostly with simple rays; the ventral and pectoral long, the tail generally rounded, with bifid rays.

A. Eyes both on the right side of the head.

rhodac- Body rough; pectoral fins filiform.

us. Inhabits *Amboina*.

Body brown with dusky spots; lateral fins hardly conspicuous.

Dors. 53: pect. 4: vent. 6: an. 48: caud. 10 rays.

Zebra.**Body with numerous transverse bands.**Inhabits *India*; body long, back brownish at the edge and white in the middle, rough with denticulate scales.*Head* scaly; *eyes* small, pupil black, iris sea-green; upper jaw longer; aperture of the gills and covers large; *lateral line* straight, beginning from the eye; *vent* farther from the head than in others; *fins* yellow with brown bands, most of the rays simple; *pectoral* very thin; *dorsal*, *anal* and *caudal* connected, the rays of the latter split.*Dors.* 87: *pect.* 4: *vent.* 6: *an.* 48: *caud.* 10 rays.**Plagiusa.** Body oblong, somewhat rough; dorsal and anal fins joined to the tail.Inhabits *Carolina*: body pale cinereous.*Dorsal*, *anal* and *caudal* fins so closely connected that they cannot be distinguished, even by the length of the rays.**Ocellatus.** Body with 4 dark brown ocellate spots; irids white.Inhabits *Surinam*: dorsal fin folded; tail with a black band.*Dors.* 66: *pect.* 3: *vent.* 6: *an.* 55: *caud.* 14 rays.***Hippoglossus.****Body perfectly smooth; tail lunate.***Holibus.*Inhabits the *European* and *North American* seas; is the largest of all aquatic animals except the whale tribe, and frequently weighs 400 pounds; body mucous, with oblong scales sticking firmly to the body; above liver-coloured, beneath white; flesh fat and coarse, except the part adhering to the side fins.*Eyes* large, pupil black, iris white, and very rarely placed on the left side of the head; *mouth* large; *teeth* long, sharp, curved, distant; upper jaw moveable; aperture of the gills large; *lateral line* arched near the breast and afterwards straight; *fins* dusky-ash; *pectoral* oblong; *dorsal* beginning above the eyes; *anal*, before which is a long spine, and *caudal*, with rays longer than the membrane, the base covered with scales.*Dors.* 107: *pect.* 15: *vent.* 7: *an.* 28: *caud.* 16 rays.**Cynoglossus** Body oblong, smooth; teeth obtuse; tail a little rounded.Inhabits the *Belgic* and *Greenland* seas; 26 inches long.*Lateral line* oblique, but not arched.*Dors.* 112: *pect.* 11: *vent.* 6: *an.* 102: *caud.* 24 rays.

Platessa. Body smooth; behind the left eye a row of 6 tubercles reaching to the lateral line. *Plaice*.

Inhabits *European* seas; grows to 16 pounds weight; body above varied with brown and cinereous, with large bright orange spots, beneath white; scales thin, soft; flesh good.

Head covered with firm scales, each deposited in its proper bed; eyes moderate, pupil blueish, iris greenish-yellow; mouth small; teeth small, obtuse; lower jaw longer; palate and tongue smooth; lateral line straight, in the middle; fins dusky-ash; dorsal beginning above the eye; anal spotted with orange, with a large spine before it; tail scaly at the base, and all with rays longer than the membrane.

Dorf. 68: p. 12: v. 6: a. 54: c. 19 rays.

Eleusus. Lateral line rough; short spines on the right side of the fins. *Flounder*.

Inhabits *European* seas, and even enters rivers far above the salt waters; seldom exceeds 6 pounds weight; body covered with thin oblong scales, firmly sticking to the skin; above pale brown with dirty-yellow spots, beneath white shaded with brownish.

Eyes a little prominent, pupil black, iris yellow; mouth small; lower jaw longer; tongue short, narrow; aperture of the gills large, the covers terminated by an obtuse spine; lateral line a little nearer the back, and bending above the pectoral fin; fins brownish; ventral, caudal and dorsal spotted with black; between the anal and ventral is a strong spine.

D. 59: p. 12: v. 6: a. 44: c. 16 rays.

Rosius. Body rosy; fins pale yellow-brown. *Rose-coloured Flounder*.

Taken in the *Thames*, and is preserved in the *Lev. Museum*.

Naturalist's Miscellany, No. 79, tab. 238.

Body in some parts slightly tinged with yellowish, in others with silvery-white, without scales, though marked with minute scale-like reticulations; lateral line nearly straight.

D. 60: p. 12: v. 7: a. 42: c. 20 rays.

Limanda. Scales small, ciliate; spinules at the root of the dorsal and anal fins with obtuse teeth. *Dab*.

Inhabits *European* seas; less and thinner than the flounder; feeds on worms and insects, especially small crabs; spawns in June; body mucous, above dark liver-colour, beneath white; scales soft, oblong, sticking firmly to the body; flesh very good.

5 E 2

Eyes

Eyes large, pupil black, iris white; mouth large; teeth long, sharp, curved, distant; upper jaw moveable; fins resembling those of the plaice, but the pectoral are oblong; tail lunate; lateral line arched at the beginning and then going straight to the tail.

Dors. 75: pect. 11: vent. 6: an. 61: caud. 15 rays.

• *Lavis.* Brown with obscure yellow spots, beneath white with large dusky spots; scales smooth; dorsal fin 79-rayed. Smear-dab.

Inhabits Europe; $1\frac{1}{2}$ foot long; flesh very good.

Head small; mouth full of small teeth; lateral line much curved for the first 2 inches and afterwards straight.

• *Limnandoiæ.* Body oblong, rough; lateral line straight, broad.

Inhabits Northern seas; body rough with large denticular scales; above pale brownish-yellow, beneath white; resembles the plaice; flesh very white, firm and good.

Head scaly; pupil blueish-white; mouth large; upper lip consisting of 2 bones, and can be protruded or retracted at pleasure; tongue loose, thin, and with the palate smooth; aperture of the gills large, the cover of one piece; ventral, dorsal and anal fin with simple rays, the base covered with yellow scales; pectoral and caudal with forked rays.

Dors. 79: pect. 11: vent. 6: an. 63: caud. 15 rays.

• *Solea.* Body oblong, rough; upper jaw longer. Sol.

Inhabits European and Mediterranean seas; sometimes above a foot long; body narrow, above olive; scales small, hard, articulate, very firmly adhering to the skin; a fish of very delicate flavor.

Head truncate above; jaws bearded with very small white teeth; the upper lunate, lower with many small moveable teeth; gills not so near together as in most others, pupil blue, iris yellow; gill-cover rounded, of one piece, covering the opercular brane; lateral line straight, nearer the back; vent between the ventral fins; fins above olive, beneath white, pectoral edged with black, and like the ventral small; rays of the dorsal and anal scaly nearly to the middle.

Dors. 80: pect. 10: vent. 6: an. 65: caud. 17 rays.

• *Arnoglossus.* Thin, pellucid, white, smooth. Found in Cornwall, but rarely.

Smooth Sole.

Lingcod.

Linguatula. Vent on the left side ; teeth sharp.
Inhabits Europe.
Dors. 68 : *pect.* 10 : *vent.* 6 : *an.* 55 : *caud.* 19 rays.

Glacialis. Very smooth ; above brown, beneath white ; middle rays of the dorsal and anal fins rough with small spines.
Inhabits sandy places of the *Frozen Sea* ; 9 inches long ; bony part of the head behind the eyes prominent, rough.

Platessoides. Body above with brown spots.
Inhabits, though rarely, sandy places on the mouths of rivers in *Greenland* : hardly a foot long ; feeds on small worms and fish ; in shape resembles *P. linguatula*, in its scales the sole, and in its spots the plaice ; body oblong, narrowing at each end, and covered with large rough scales ; above ashy-tawny, beneath smooth, white ; is troubled with the *gordius marinus* and is very good eating.
Head smooth ; *eyes* black, iris silvery ; lower jaw longer, terminated by a tubercle ; *tongue* long, slender, smooth, rounded at the end ; *vent* at the edge of the belly ; *lateral line* nearer the belly, straight ; *pectoral* fins short, and like the *ventral* wedged ; *tail* large, broad, a little rounded.
Dors. 89 : *pect.* 12 : *vent.* 6 : *an.* 71 : *caud.* 18 rays.

B. Eyes both on the left side of the head.

Lineatus. Body rough, barred with black ; pectoral fins 0.
Inhabits *North America*.
Scales ciliar ; *tail* rounded.
Dors. 53 : *p.* 0 : *v.* 4, 5 : *a.* 45 : *c.* 16 rays

Bilineatus. Lateral line double ; pectoral fins 0.
Inhabits *China* ; body thin, long, above yellow, edged with brown, beneath reddish-white, entirely covered with small roundish denticulate scales.
Head large ; *eyes* small, pupil white, iris sea-green, surrounded with a white line ; *mouth* small, semilunar ; *teeth* obtuse ; aperture of the *gills* large, the cover of one piece over the membrane ; *lateral lines*, one nearer the back, the other in the middle, and besides these 2 transverse lines from the lower lip ; *fins* brown with simple rays ; *dorsal* surrounding the the head and with the *anal* joined to the *caudal*.
Dors. *an.* and *caud.* 174.

Punctatus.

Punctatus. Body broad and very rough.

Inhabits deep sandy places of the *Northern* sea; body oval, covered with small denticulate imbricate scales, cinereous edged with brown and spotted with red, beneath reddish white, and varied both sides with round and oblong black spots; is reckoned a delicacy in *Denmark*.

Head middle-sized; *eyes* prominent, pupil black, iris sea-green with a black band behind; *jaws* with crowded, inflected teeth; upper *lip* retractile and protrusile; *lateral line* beginning above the eye, bent over the pectoral fin and then straight; *vent* nearer the head; *fins* cinereous, scaly, the rays broad; *dorsal* commencing from the upper lip; *tail* short, rounded.

Dors. 89 : *p.* 11 : *v.* 6 : *a.* 68 : *c.* 14 rays.

•Rhombus. Body smooth.

Pleur.

Inhabits the *European* seas; is the broadest of its size except the turbot; body covered with small scales, deep brown with dirty-yellow spots, beneath white; flesh very good, but inferior to the turbot.

Head broad; *pupil* black, iris yellow? *mouth* large; *jaws* retractile, toothed, the lower longer; *gill-cover* ending in an obtuse angle; *lateral line* arched near the head and afterwards straight; *fins* brown varied with white and yellow; *tail* long, rounded.

Dors. 71 : *pect.* 12 : *vent.* 6 : *an.* 57 : *caud.* 16 rays.

Dentatus. Body oblong, smooth; teeth extending out of the mouth.

Inhabits *Carolina*.

Teeth sharp; *tail* rounded, scaly.

D. 86 : *p.* 12 : *v.* 6 : *a.* 50 : *c.* 17 rays.

•Maximus Body rough.

Turbot.

Inhabits the *European* and *Mediterranean* seas: grows sometimes to 30 pounds weight; is very voracious, and feeds on insects, worms and testaceous animals; body oblong, covered with obtuse, unequal, spinous tubercles, above brown varied with yellow, beneath white spotted with brown; flesh firm and excellent.

Head broad; *eyes* large, pupil sea-green, iris brown; *lower jaw* longer; aperture of the *gills* large; *lateral line* in the middle, arched near the breast and afterwards straight; *tail* yellowish, with black points and spots.

Dors. 67 : *pect.* 10 : *vent.* 6 : *an.* 46 : *caud.* 15 rays.

•Pleur.

**Passer.* Lateral line much curved, prickly. *Whiff.*

Inhabits *European* seas; hardly a foot long; body oblong, smooth, covered with thin scales, above varied with cinereous and yellow, beneath white; flesh very good.

Head covered with long tubercles; eyes small, pupil yellowish-green, iris brownish; lower jaw longer; lateral line straight after the deep curvature at the beginning; behind the vent a spine; fins yellowish spotted with brown.

Dors. 59: pect. 11: vent. 6: an. 44: caud. 16 rays.

**papillofus.* Lateral line curved; body papillous.

Inhabits *America*. Is probably only a variety of the last.

Dors. 58: pect. 12: vent. 5—6: an. 42: caud. 16 rays.

lanceus. Head tuberculate; pectoral fins unequal.

Inhabits sandy bottoms of the *Brasil* and *Pacific* seas; feeds on crabs, testacea and other fish; body oblong elliptic, covered with large, suboval, obliquely and irregularly imbricate scales; the right side and fins cinereous with black dots and unequal whitish-glaucous spots, the left side whitish-glaucous with round brown equal spot; flesh very good.

Head compressed, large; pupil black, iris silvery; mouth when shut turning obliquely upwards; jaws with 2 rows of very sharp teeth, the lower a little longer; tongue loose, smooth, pointed; gill-covers of 2 pieces; lateral line a little arched at the beginning; dorsal and anal fins long, the rays simple, the rest with branched rays; left pectoral falcate, the right oblong-oval.

Dors. 94: pect. 13, 12: vent. 6: an. 80: caud. 17 rays.

rus. Body variegated; tail rounded; jaws equal.

Inhabits the *Caribbee Islands*; body covered with small soft scales, and variegated with yellow spots, which are dotted with brown and edged with blue; the body is likewise sprinkled with brown points.

Head broad; eyes unequal, pupil blue, iris white and brown; lateral line in the middle, bending above the pectoral fin; fins spotted with blue, the membrane yellowish, the rays brown; tail pointed like a compass; dorsal fin reaching from the nostrils to the tail.

D. 79: p. 10: v. 8: a. 69: c. 17 rays.

Lunatus.

Lunatus. Body with scattered, blue, half ocellate spots.

Inhabits *North America*: tail lunate.

Dors. 85: *pect.* 12: *vent.* 6: *an.* 79: *caud.* 17 rays.

Japonicus. Tongue rough.

Inhabits *Japan*: 6 inches long; body beneath whitish.

Rays of the *dorsal* and *anal* fins very numerous.

27. CHÆTODON. Head small: mouth small; the lips retractile: teeth (mostly) setaceous, flexile, moveable, equal, closely set, and very numerous: eyes round, small, vertical, furnished with a nictitant membrane: gill-membrane 3—6-rayed: body broad, compressed, scaly, generally fasciated: *dorsal* and *anal* fins rigid, fleshy, coated with scales, and mostly spinous.

Canescens. Tail bifid; dorsal spines 2, the third ray very long; mouth with a spine each side.

Inhabits *South America* and *India*.

Dors. $\frac{3}{4}$: *pect.* 17: *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 16 rays.

Alepidotus. Tail bifid; dorsal spines 3; ventral fins 0.

Inhabits *Carolina*: body rhombic, without scales, above blueish; jaws with a simple row of teeth; lateral line parallel to the back, dotted, the interstitial one straight, from the gills to the tail; *dorsal* and *anal* fins falcate.

D. $\frac{3}{4}$: *p.* 24: *v.* 0: *a.* $\frac{3}{4}$: *c.* 23 rays.

Acuminatus. Tail entire; dorsal spines 3; third ray very long.

Inhabits *South America* and *India*.

Body with 3 brown bands.

Dors. $\frac{3}{4}$: *pect.* 25: *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 7 rays.

innatus. Tail entire; dorsal spines 4; dorsal and anal fins very long.

Inhabits *South America* and *India*.

Body grey; frontal band and tip of the tail white.

Dors. $\frac{1}{2}$: pect. 18: vent. $\frac{1}{2}$: an. 28: caud. 18 rays.

ornatus. Tail bifid; spines of the dorsal fin 7; third ray very long.

Inhabits *India*; body thin, coated with fine scales, white with many transverse black bands; flesh good.

Head with 2 short spines above the eyes; pupil black, iris yellowish; jaws equal, armed with a double row of teeth; snout tubular; gill-cover roundish, of one piece and covering the membrane; lateral line nearer the back, arched; vent in the middle of the body; tail lunate.

Dors. $\frac{1}{2}$: pect. 18: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 16 rays.

argenteus. Tail bifid; dorsal spines 8; instead of ventral fins 2 spines.

Inhabits the *Indian* ocean.

Ventral spines short, and first dorsal so small as to be scarcely visible.

Dors. $\frac{2}{3}$: pect. 26: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

armatus. Dorsal spines 6, the third very long; body with 7 black bands; gill-covers spinous.

Inhabits the *Southern* ocean. *Nat. Miscel. tab. 57*.

Body silvery-white, darker with a blueish tinge on the back; fins and tail pale brown; tail subequal.

Boddarti. Body with brown and blue bands; spines on the ventral fins 2.

punctatus. Dorsal spines 8; pectoral fins falcate.

Inhabits *Asia*.

Body whitish or silvery with brown spots; eyes large, red; lateral line curved; 3 first rays of the anal fin distant.

Dors. $\frac{2}{3}$: pect. 17: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

arcuatus. Tail entire; dorsal spines 8; body with 5 white arched bands.

Inhabits *Brazil*; 4 inches long; body brown.

Head large; *eyes* small, pupil black, iris golden; *gill-cover* armed with a spine; *lateral line* composed of white points; *vent* in the middle of the body.

Dors. 9: *pect.* 20: *vent.* 6: *an.* 3: *caud.* 19 rays.

Rostatus. Tail entire; dorsal spines 9, the fin with a black ocellar spot; snout cylindrical.

Inhabits *India*; is chiefly found near the shore or at the mouths of rivers; body white with brown longitudinal lines and 5 transverse bars, the hinder ones edged with white; feeds on insects flying near the surface of the water, which it catches by ejecting water from its tubular snout and bringing them down with it into its jaws; flesh white and well-tasted.

Head narrow, long; *iris* yellow; *jaws* equal; *lateral line* nearer the back, arched; *vent* in the middle of the body; *fins* with numerous branched rays; *tail* with a black band edged with white.

Dors. 9: *pect.* 14: *vent.* 6: *an.* 3: *caud.* 14 rays.

Orbis. Body orbicular, blueish; anal fin with 19 rays.

Inhabits *India*.

Head large, sloping; *iris* golden; *jaws* equal; *gill-cover* long, narrow, covering the membrane; *lateral line* composed of many straight, interrupted lines, running together into an obtuse angle towards the back; *vent* in the middle of the body; *rays* of the fins branched, the second, third and fourth dorsal elongated into a bristle; *ventral* fins long.

Dors. 3: *pect.* 18: *vent.* 6: *an.* 3: *caud.* 16 rays.

Nigricans. Tail bifid, with a spine each side; dorsal spines 9.

Inhabits the *Indian Ocean* and *Red Sea*; 2 feet long; body blackish, brown at the sides, beneath white, fleshy and coated with small scales; flesh good.

Eyes large, *iris* silvery; *teeth* in each jaw 10—16, notched, those beneath cylindrical, those above broader and very hard, the fore-ones longer; *tongue* short, thick; *gill-cover* long, narrow; *lateral line* nearer and parallel to the back; *rays* of the fins mostly branched; *pectoral* and *caudal* cinereous; *ventral* black; *dorsal* and *anal* white at the base, elsewhere brownish with forked rays.

Dors. 9: *pect.* 16: *vent.* 6: *an.* 3: *caud.* 16 rays.

Leucurus.

Leucurus. Body black ; tail white, entire ; dorsal spines 9, the first recumbent.

Inhabits *America* ; small,

Before the *dorsal* fin a recumbent spine ; *ventral* fins pointed.

Dors. 3 : *pect.* 16 : *vent.* 1 : *an.* 2 : *caud.* 20 rays.

Lineatus. Tail forked with a spine each side ; body variegated with longitudinal lines ; dorsal spines 9.

Inhabits *South America* and *India*.

Dors. 3 : *pect.* 16 : *vent.* 1 : *an.* 3 : *caud.* 16 rays.

Squamulatus. Gold-green ; the scales coated with smaller ones.

Inhabits *America* and the *West Indian* islands.

Eyes large, pupil black, iris golden ; *gill-cover* very spinous ; *dorsal* spines 3, and 3 before the *anal*, both these fins blue, ending in red, and somewhat falcate ; *body* green ; *pectoral*, *ventral* and rounded *caudal* golden-yellow. *Nat. Miscel. tab.* 275.

Triostegus. Tail subbifid ; dorsal spines 9 ; gill-membrane 3-rayed.

Inhabits the *Indian* and *Pacific* oceans ; body compressed, obovate, coated with small imbricate scales, pale greenish-ash with 6 dark brown bands.

Head on the top nearly parabolic ; iris silvery-brown ; *jaws* a little asunder, armed with about 16 compressed teeth ; *tongue* short, bound with a frenum and with the *palate* smooth ; *gill-cover* of 2 pieces ; *fins* greenish ; *ventral* whitish ; *tail* with a spine each side.

Dors. 3 : *pect.* 18 : *vent.* 3 : *an.* 1 : *caud.* 16 rays.

Macrolepidotus. Tail entire ; dorsal spines 11, the fourth filiform and very long.

Inhabits *India* ; grows to 25 pounds weight ; body silvery with 2 brown bands, and coated with larger scales towards the tail ; flesh good.

Head with a brown spot above and another before the eyes ; *eyes* round, iris blueish ; *jaws* equal ; *gill-cover* of one piece, covering the membrane ; *lateral line* arched ; *vent* nearly in the middle ; *rays* of the fins mostly branched ; *tail* truncate.

Dors. 11 : *pect.* 16 : *vent.* 1 : *an.* 2 : *caud.* 16 rays.

Argus. Dorsal spines 11 ; body with numerous black spots ; tail entire.

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Inhabits

Inhabits *India*, and is chiefly found in fresh swamps; feeds on insects; body nearly square, above violet, beneath white, the sides spotted with brown; flesh good.

Iris golden; *jaws* equal; *gill-cover* large, the membrane loose; *lateral line* arched; *vent* nearly in the middle of the body; *fins* short, yellow; before the *anal* are 4 spines.

Dors. 22: *pect.* 18: *vent.* 4: *an.* 4: *caud.* 14 rays.

Striatus. Tail entire; dorsal spines 12; body striate; snout prominent.

Inhabits *India*; body yellow with brown bands; scales large, paler at the edges; flesh good.

Eyes large, *iris* yellow; *gill-cover* of 2 pieces, covering the membrane; *lateral line* parallel with the back; *vent* near the head; *fins* yellow, edged with pale brown; *ventral* entirely brown; *tail* rounded.

Dors. 22: *pect.* 16: *vent.* 4: *an.* 2: *caud.* 18 rays.

Arcuanus. Tail bifid; dorsal spines 12; body barred with brown.

Inhabits the *Indian* and *Arabian* coasts, among coral rocks; feeds on sea-worms; body silvery with deep brown bands, one on the head, another on the breast, and a third passing from the dorsal fin to the anal; back cinereous; scales minute; flesh eatable.

Head large; *front* and *iris* white; *mouth* narrow; *jaws* equal, *teeth* fall, wedged; *gill-cover* of one piece, mucronate in the middle; *ventral* fins long, and with the *anal* black; rounded *tail* and *dorsal* cinereous.

Dors. 22: *pect.* 18: *vent.* 4: *an.* 3: *caud.* 16 rays.

Capistratus. Tail entire; dorsal spines 12; a purple spot surrounded with white near the tail.

Inhabits *Jamaica*: about 3 inches long; body white with brown lines; scales rather large.

Eyes very large; *ocular* band black, edged with white; *gill-cover* sea-green, of 2 pieces; *fins* yellowish, the rays branched; *dorsal* and *anal* bordered with brown, the spines sea-green; near the *caudal* a black band.

Dors. 22: *pect.* 14: *vent.* 4: *an.* 3: *caud.* 16 rays.

Vagabundus. Tail entire; dorsal spines 13; body striate; snout cylindrical.

Inhabits

Inhabits *India*: body yellow, with brown lines; above the eyes a black band, another at the end of the trunk, and a third through the middle of the tail; scales of the body large, of the head small; flesh good.

Iris brown; *gill-cover* of 2 pieces, the membrane loose; *vent* nearer the tail; *fins* yellow, the rays branched; *dorsal*, *anal* and *caudal* edged with black.

Dors. 13: *pect.* 15: *vent.* 6: *an.* 3: *caud.* 18 rays.

liaris, Tail entire; dorsal spines 14; gill-covers spinous; scales ciliate.

Inhabits *India*; body grey with 4 brown bands.

Iris reddish-white; *mouth* very small; *lips* large; *jaws* equal; *gill-covers* with 3 spines, the hinder one longest; *lateral line* parallel to and near the back; *vent* in the middle of the body; *fins* edged with brown, the rays branched; a small black ring before the *dorsal*.

Dors. 13: *pect.* 20: *vent.* 5: *an.* 3: *caud.* 16 rays.

axatilis. Tail bifid; dorsal spines 14; ventral fins pointed; teeth notched.

Inhabits *Brazil*, *India* and *Arabia*; among beds of coral; 8 inches long; body white, with 6 black bands; scales very large; flesh not eaten.

Eyes large, *iris* yellow; aperture of the *gills* very large, the membrane loose; *lateral line* interrupted at the dorsal fin; *fins* large, black; *tail* forked.

Dors. 13: *pect.* 16: *vent.* 4: *an.* 3: *caud.* 15 rays.

rotundus. Dorsal spines 23; body with 5 pale bands.

Inhabits *South America* and *India*.

Body cinereous, rounded.

Dors. 23: *pect.* 19: *vent.* 6: *an.* 3: *caud.* — rays.

lanceolatus. Tail entire; body with 3 bands, one across the eyes, another across the breast, and a third from the anterior dorsal fin to the tail.

Inhabits *India*; body oblong, lanceolate.

Bands black, edged with grey.

lureus. Golden; a spine near the cheek-bone; dorsal spines 12.

Inhabits the *Caribbee Islands*; body oval, coated with hard denticulate scales.

Iris.

Iris reddish; *mouth* small; *lips* strong; *teeth* setaceous; *gill-cover* of a single piece; *lateral line* a little arched; *fins* yellow, green at each end, the rays branched; *pectoral* and *caudal* rounded, the rest falcate; *pectoral* and *ventral* without scales.

Dors. 14: *pect.* 12: *vent.* 6: *an.* 3: *caud.* 15 rays.

Imperator. Body longitudinally streaked: dorsal spines 14.

Inhabits *Japan*; yellow, the rays blue; scales behind the *pectoral* and *ventral* fins large; flesh delicious.

Head large; *iris* golden, surrounded with a blue arch; *mouth* small; *lips* large; *jaws* equal; *teeth* long, setaceous; *gill-cover* of 2 pieces, marked with a blue streak; *lateral line* runs along the back, and bending down at the end of the dorsal fin; rays of the fins branched; *dorsal* and *anal* thick, rounded.

Dors. 14: *pect.* 18: *vent.* 1: *an.* 3: *caud.* 16 rays.

Dux.

Body fasciate; belly with 7 spines: dorsal spines 14.

Inhabits *India*: body white, with blue streaks edged with brown; scales very small.

Iris white, blue and brown; *mouth* narrow; *jaws* equal; *gill-cover* of one thin piece; *lateral line* near and parallel to the back and bending at the end of the dorsal fin; *pectoral* fins short, pellucid, rounded.

Dors. 13: *pect.* 16: *vent.* 1: *an.* 3: *caud.* 14 rays.

Guttatus. Body spotted: dorsal spines 13, ventral 2.

Inhabits *Japan*; body long, narrow, covered with minute scales, above cinereous, beneath white, and spotted with tawny.

Eyes large, round, *iris* dusky-yellow; *mouth* large; *jaws* equal; *teeth* sharp; *lips* thick, the upper protrusile and retractile; *gill-cover* of one thin long piece, covering the membrane; *lateral line*, originating at the cover, slightly arched, nearer the back, and interrupted at the end of the dorsal fin; *fins* without scales, the rays branched; *pectoral* yellow-brown; *dorsal* and *anal* cinereous; *tail* yellow with cinereous spots.

Dors. 13: *pect.* 15: *vent.* 2: *an.* 7: *caud.* 16 rays.

Paru.

Dorsal spines 10: anal 5.

Inhabits

Inhabits *South America*; 16 inches long; feeds on small aquatic animals; body black, the sides grey; scales on the trunk large, edged with yellow; flesh eatable.

Eyes small, iris golden; lower jaw longer; gill-cover of 2 pieces, terminating downwards in a spine and covering the membrane; vent in the middle of the body; pectoral and caudal fins short, rounded; the rest long, falcate; before the pectoral fins a yellow spot.

Pect. 14 : vent. 6 : caud. 15 rays.

Pavo.

Dorsal spines 14; body oblong.

Inhabits *India*. Exhibits a beautiful display of colours.

Head and breast yellow-brown, spotted with blue and marked near the eyes with blue lines; iris greenish-white; mouth small; gill-cover of one piece, the membrane loose; lateral line parallel with the back and interrupted at the end of the dorsal fin; vent in the middle of the body; rays of the fins branched; pectoral short, pellucid; ventral with a third between them.

Dors. $\frac{11}{1}$: pect. 15 : vent. $\frac{6}{1}$: an. $\frac{1}{1}$: caud. 19 rays.

Espertilio. Dorsal spines 5; dorsal and anal fins broad; tail with a black band.

Inhabits *India*; body cinereous, beneath paler, very thin; scales minute.

Head without scales; iris yellowish-silvery; mouth small; lips thick; gill-cover of 2 pieces, silver-gilt; lateral line arched; fins cinereous, the rays branched; the scaly part of the dorsal and anal yellowish.

Dors. $\frac{5}{1}$: pect. 18 : vent. 6 : an. $\frac{3}{3}$: caud. 17 rays.

Animacutus. Dorsal spines 13; sides marked with a black spot.

Inhabits *India*: body white, with transverse brown lines; back cinereous; scales large.

Iris white, brown without; over the eyes a black band; jaws equal; gill-cover of 2 pieces; lateral line near to and parallel with the back; fins yellowish, the rays branched; anal and dorsal short and rounded at the edge; tail brown at the base.

Dors. $\frac{13}{35}$: pect. 4 : vent. 6 : an. $\frac{3}{35}$: caud. 16 rays.

Bicolor. Upper half of the body brown, lower and tail white.

Inhabits *South America* and *India*; oblong.

Head

Head thick; eyes large, iris silvery; gill-cover large, spinous, serrate, of one piece; fins rigid, the rays branched; dorsal and anal covered entirely with scales; ventral small; pectoral pellucid; dorsal spines 15, anal 3.

Dors. $\frac{15}{3}$: pect. 14: vent. $\frac{1}{2}$: an. $\frac{3}{4}$: caud. 16 rays.

Margindus. Fins margined and pointed; dorsal spines 12.

Inhabits gravelly shores of the *Caribbees*: feeds on lesser fish; body yellow, beneath and head whitish, with 8 pale brown bands; scales large; flesh good.

Eyes oblong, iris silvery; gill-membrane loose; vent nearer the tail; fins without scales, the rays branched, yellow on the fore and cinereous on the hind-part; tail forked, entirely yellow.

Dors. $\frac{12}{3}$: pect. 12: vent. 8: an. 16; caud. 20 rays.

Chirurgus. Dorsal spines 14; caudal 1.

Inhabits the *Caribbee* islands; body yellow with 5 narrow violet bands, beneath blueish; flesh good.

Head large, violet; a black spot at the mouth and cheeks; eyes round, iris white and brown; upper jaw longer: vent nearer the mouth than the tail; fins without scales; pectoral, ventral and anal violet, the latter with yellow bars; dorsal varied with yellow and violet; tail yellow at the base, and violet towards the edge.

Dors. $\frac{14}{2}$: pect. 16: vent. $\frac{1}{2}$: an. $\frac{3}{4}$: caud. 16 rays.

Rhomboides. Dorsal spines 5; anal 2.

Inhabits the *American* ocean: body rhombic, green, beneath yellow, the interstices of the 3 bands on the belly white.

Head silvery, truncate on the fore-part; eyes large, round, iris white and red; mouth larger, teeth smaller than others of its tribe; gill-membrane of 2 semilunar pieces, the membrane loose; lateral line a little curved; vent in the middle of the body; dorsal fin green, pectoral and ventral yellow at the base, and violet toward the edge; anal and caudal edged with green.

Dors. $\frac{5}{2}$: pect. 18: vent. $\frac{1}{2}$: an. $\frac{2}{4}$: caud. 26.

Glencus. Lateral line straight; dorsal spines 5.

Inhabits *America*; nearly $1\frac{1}{2}$ foot long; body oblong, above blue, beneath silvery, with 6 short narrow brown streaks; flesh well-tasted.

Eyes small, iris yellow; *mouth* large; *lips* thick, with many bones; aperture of the *gills* narrower, the membrane loose; *fins* with branched rays; *ventral* very small, ending in a long, narrow point, and like the *pectoral* whitish; the other fins blackish; *anal* without spines.

Dors. 5: *pect.* 12: *vent.* 1: *an.* 17: *caud.* 20 rays.

lumieri. **Dorsal fins 2; head without scales.**

Inhabits the stony shores of the *American* seas; body oblong, coated with small scales, above brownish, cinereous at the sides, beneath white, and marked with 6 greenish bands; flesh good.

Head above brown, white at the sides; *iris* greenish-white; *lips* thick; *gill-cover* of 2 pieces; *lateral line* arched; *fins* without scales, greenish, the rays branched; all the spines of the first *dorsal* fin yellowish.

Dors. 5, 35: *pect.* 14: *vent.* 1: *an.* 13: *caud.* 12 rays.

cellatus. **A black band across the eyes; dorsal fin with 12 spines and an ocellate spot; anal spines 3.**

Inhabits *India*; body yellow, beneath white; the scales on the trunk large.

Jaws equal, prominent; *lips* thick; *gill-cover* of one short golden lamina, the membrane loose; *lateral line* straight, interrupted at the dorsal spot; *fins* cinereous with branched rays.

Dors. 12: *pect.* 16: *vent.* 1: *an.* 3: *caud.* 18.

uracoo. **Dorsal spines 13, anal 2.**

Inhabits *South America*; body thick, brownish, the sides with silvery scales edged with violet.

Head large; *iris* white; *jaws* equal; *lips* thick; *gill-cover* broad, violet, covered with large scales; *lateral line* composed of oblong white scales, straight and interrupted at the dorsal fin; *vent* in the middle of the body; *fins* yellow, the rays branched; *tail* forked.

Dors. 13: *pect.* 12: *vent.* 1: *an.* 2: *caud.* 16 rays.

Mauritii. **Dorsal spines 11, anal 3.**

Inhabits *Brasil*: 2 feet long; body long, blue, the sides paler, with 6 black narrow bands, beneath white; flesh good.

Iris yellowish-silvery; *mouth* and aperture of the *gills* large; *back* a little arched; *lateral line* nearer the back; *vent* nearer the tail; *rays* of the fins branched; *ventral* yellow; *pectoral* dusky; the rest pale blue.

Dors. 11: *pect.* 14: *vent.* 6: *an.* 3: *caud.* 18 rays.

Vol. 1, — 5 G

Bengalensis,

- Bengalensis*. Body with 5 bay bands: dorsal spines 13, anal 2.
 Inhabits *Bengal*; body broad, white; scales on the trunk large.
Iris yellowish-white; aperture of the gills large; lateral line slightly arched near the back and interrupted at its end; vent nearer the tail; fins brown at the base and edged with blue.
Dors. 13: *pect.* 16: *vent.* 4: *an.* 2: *caud.* 18 rays.
- Octofasciatus*. Body with 8 brown bands: dorsal spines 11, anal 3.
 Inhabits *India*: body violet-white.
Iris whitish-yellow; jaws prominent, equal; lateral line slightly curved; vent in the middle of the body; fins short, brownish at the base; dorsal and anal edged with brown, the rest cinereous.
Dors. 11: *pect.* 16: *vent.* 4: *an.* 3: *caud.* 12 rays.
- Annularis*. Body brown with curved blue streaks: dorsal spines 14, anal 3: lateral line with a small ring.
 Inhabits *India*; body coated with small scales.
Iris silvery; gill-cover of 2 pieces, the anterior one toothed and spinous; lateral line parallel with the back; vent in the middle of the body; anal fin rounded, with a blue band; dorsal pointed, both deep brown, the rest white.
D. 14: *p.* 16: *v.* 6: *a.* 3: *c.* 16 rays.
- Collare*. Head with 5 bands: dorsal spines 12, anal 7.
 Inhabits *Japan*; body blue, beneath yellowish; scales on the trunk very large.
 Head sloping down; eyes large, iris blue; lateral line bending in an obtuse angle at the dorsal fin, and interrupted at its end; pectoral fins yellow; ventral cinereous, the rest yellowish edged with brown; dorsal with a yellow, caudal with a brown band.
Dors. 12: *pect.* 14: *vent.* 4: *an.* 7 rays.
- Mesomelas*. Head with an ocular band: dorsal spines 12, anal 3; gill-cover with 1 spine.
 Inhabits *Japan*: body oblong, round, the fore-part bluish-white, the hind-part black; scales small.
 Eyes large; gill-cover of 2 pieces and armed with lesser spines besides the large one; lateral line near the back; vent in the middle of the body; dorsal and anal fins black, the rest white.
Dors. 12: *pect.* 16: *vent.* 6: *an.* 3: *caud.* 16 rays.

Faber.

- Faber.* Body banded : dorsal spines 9, the third very long : anal 3. Inhabits the *Indian* and *American* seas ; 11 inches long ; body silvery, with 6 blueish-black bands. *Iris* yellow ; *lateral line* near and parallel with the arched back ; *fins* with branched rays ; *pectoral* and *ventral* black, the rest blueish-black.
- Dors.* 9 : *pect.* 16 : *vent.* 4 : *an.* 3 : *caud.* 20 rays.
- Chilensis.* Golden, with 5 different coloured bands : tail entire : dorsal spines 11. Inhabits the sea round *Chili* ; 12 inches long ; body oval, coated with minute scales ; the first band black, 2 next cinereous, 2 last black and cinereous. *Snout* long ; *nostrils* 2, near the eyes ; aperture of the *gills* arched, the cover of 3 pieces ; *lateral line* arched, hardly visible ; *vent* nearly in the middle of the body ; *pectoral* fins small and like the *ventral* pointed ; *dorsal* large, yellow ; *caudal* silvery, edged with yellow, fan-shaped ; near the tail an oval black spot.
- Longirostris.* *Snout* cylindrical : tail unarmed : dorsal spines 11, anal 3. Inhabits the *Pacific* ocean ; body compressed, citron, beneath striate, and coated with unequal obliquely imbricate scales. *Head* sloping, brownish, beneath silvery flesh-colour ; *pupil* brownish, *iris* pale glaucous ; *mouth* large, oblong ; *jaws* subequal, with a few small unequal teeth ; *tongue* and *palate* smooth ; *lateral line* straight ; *vent* nearly in the middle ; *dorsal* and *anal* fins citron, a black line on the hind-part and another edged with whitish, the latter with a black spot near the tip ; *ventral* citron, the outer edge brownish ; *caudal* and *pectoral* pale blue, the latter yellowish at the base.
- D.* 11 : *p.* 15 : *v.* 4 : *a.* 3 : *c.* 23 rays.
- Teira.* Body with 3 black bands : dorsal and anal fins very long : dorsal spines 5, anal 3. Inhabits the *Arabian* and *Indian* seas ; about a yard long ; feeds on corals and testaceous animals ; body white, broad and long, sloping on the fore-part ; scales small, denticulate. *Iris* reddish-white ; *mouth* very small ; *gill-cover* of one piece ; *lateral line* composed of white points ; *vent* near the *ventral* fins which are black, the rest white.
- Dors.* 5 : *pect.* 11 : *vent.* 4 : *an.* 3 : *caud.* 17 rays.

Orbicularis Body roundish, ashy-brown: dorsal spines 6.

Inhabits the stony shores of *Arabia*; about a foot long; body resembling a flat-fish, spotted with black, beneath whitish, behind yellowish; scales round, entire.

Front sloping perpendicularly; iris yellow; lips obtuse, equal; teeth moveable, numerous, the outer row 3-toothed at the tip; gill-cover entire, scaly; lateral line nearer but not parallel to the back; before the dorsal and anal fins are the rudiments of spines, each of them as well as the caudal thick, fleshy, scaly; ventral oval, within yellowish, without greenish-brown, pellucid; pectoral oval lanceolate, greenish-brown.

Dors. 3: pect. 16: vent. 4: an. 26: caud. 16 rays.

Fasciatus, Yellow: band across the eyes black, one above the nape white, and one through the sides rusty-brown.

Inhabits *Arabia*; 5 inches long; scales round, imbricate.

Head conic-obtuse; upper lip protractile; lateral bands each side 8; dorsal fin at the base with a tawny fillet, then black, afterwards rusty-yellow, edged with yellow; anal rusty-yellow; ventral yellow; pectoral glaucous; tail truncate, yellowish, with a brown band in the middle.

Dors. 3: pect. 16: vent. 4: an. 3: caud. 16 rays.

Auriga. Body blueish-white with 16 oblique brown bands: fifth ray of the dorsal fin long, filiform.

Inhabits the shores of *Arabia*; 5 inches long, nearly rhomboid, and coated with rhombic scales.

Head with an ocular band, above flat, scaly, reddish-white, and with 4 transverse tawny bands; iris black; mouth compressed, conic; lips rounded, equal; dorsal fin black at the hinder edge; anal varied with black and yellowish-white; tail truncate, tawny; lateral line curved.

Dors. 3: pect. 16: vent. 4: an. 3: caud. 17 rays.

Mesoleucos Fore-part of the body white, hind-part brown with 12 black bands.

Inhabits *Arabia*; 3 inches long; body oval, with large rhombic ciliate scales; through the eye a black band.

Head conic, narrow; lateral line curved; pectoral fins glaucous; ventral white; dorsal and anal brown; tail black with a broad glass-green band at tip.

Dors. 3: pect. 16: vent. 4: an. 3: caud. 17 rays.

Asfur.

Asfur. Black with a transverse yellow lunar-wedged band.

2. Blueish with oblique blotches and fine violet lines.

Inhabits *Arabia*; 5 inches long; body oval, with rhombic scales disposed in a quincunx and finely toothed.

Gill-cover with a strong retroverted spine, half an inch long; *lateral line* curved, nearer the back; *dorsal* and *anal* fins horizontal, falcate; *tail* rounded, tawny, edged with black.

Dors. 22: *pect.* 12: *vent.* 4: *an.* 3: *caud.* 16 rays.

Maculosus. Cinereous with transverse blue spots: anterior gill-covers one-spined.

Inhabits *Arabia*; body oval-oblong, covered with ferrate scales, striate and the edges broader near the head; behind the middle of the body a large transverse golden spot.

Front between the eyes elevated, flat, scaly; *gill-cover* scaly on the fore-part, ferrate behind; *lateral line* near and parallel with the back; *pectoral* fins oval; *ventral* lanceolate; *dorsal* falcate behind; *anal* triangular; *caudal* entire, a little rounded, cinereous with yellow dots.

Dors. 22: *pect.* 19: *vent.* 4: *an.* 3: *caud.* 16 rays.

Ordidus. Brown-ash, oval, with 4 obsolete transverse bands.

Inhabits *Arabia*; about a span long; is found among beds of coral; body covered with broad scales membranaceous at the edge; flesh good.

Gill-cover behind 2-toothed at the edge; *lateral line* nearer the back and not parallel; fins brown-ash; *pectoral* oval; *ventral* pointed; *anal* and *dorsal* rounded behind; *tail* short, yellowish, 2-lobed, with a black spot.

D. 22: *p.* 19: *v.* 4: *a.* 3: *c.* 14 rays.

nicornis. Front horned: tail with 2 elevated ridges each side.

Inhabits numerously on the *Arabian* coasts; about an ell long; feeds on herbs; body rough, shining-grey, oblong-oval; flesh not well-tasted.

Front sloping, with an horizontal straight horn before the eyes; *teeth* rigid, in one row, the middle ones larger; *lips* obtuse; *lateral line* parallel with and nearer the back; aperture of the *gills* short; *pectoral* fins pointed, oval; *tail* narrower in the middle and truncate.

Dors. 22: *pect.* 17: *vent.* 4: *an.* 3: *caud.* 16 rays.

Sohar.

Sohar. Tail with a bony ridge each side in a red cavity.

Inhabits deep waters of the *Arabian* shores; about 3 spans long; body oval, brown, with longitudinal violet lines, beneath whitish; resembles *Ch. lineatus*.

Head scaly; teeth contiguous, crenate, in one row; lips equal; gill-cover entire; lateral line obsolete; fins ceriseous, violet; pectoral with a yellow spot; tail truncate in the middle, the incurved angles twice as long.

Dors. 33: pect. 17: vent. 6: an. 3: caud. 16 rays.

Nigrofus- Black-brown; tail 2-lobed with a recumbent spine each
cus. side.

2. Black; base of the tail violet.

Inhabits deep waters of *Arabia*; 5 inches long, 2) longer.

First spine of the dorsal and anal fins covered by the skin; hinder edge of the tail whitish, the lobes falcate, lateral spine spear-subulate, and may be erected from the cavity.

Dors. 33: pect. 15: vent. 6: an. 26: caud. 16 rays.

Bifasciatus Tail bifid, yellow; head with 2 black bands.

Inhabits *Arabia*; body silvery, oblong-oval.

Crown wrinkled; iris silvery; jaws full of hemispherical callosities; upper lip longer; anterior gill-cover serrate behind, posterior with a bony point behind; ventral fins black; dorsal and caudal yellow; pectoral half yellow, half white; lateral line curved, near the back.

Dors. 24: pect. 16: vent. 6: an. 24: caud. 17 rays.

Pictus. Whitish with oblique violet lines; eyes and tail with a black band.

Inhabits *Arabia*; nearly rectangular; scales broad, serrate, obliquely imbricate; violet lines 18.

Crown with 5 transverse tawny lines; snout prominent; lips equal; lateral line curved; dorsal fin black, rounded behind; tail truncate, with a golden crescent in the middle, edged with brown.

D. 24: p. 16: v. 6: a. 24: c. 23 rays.

Confr.

Constrictus Body constricted in the middle.

Inhabits *New Holland*. *Zool. N. Holl. tab. 6.*

Body greenish with 7 transverse bars; head small; mouth oblique; upper gill-cover serrate, with an incurved spine on the edge, about the middle; dorsal fins 2.

Canicula- All the spines grooved.

tus.

Inhabits *Sumatra*. *Linn. Transf. 3. 33.*

Body above greenish-yellow, beneath whitish with paler spots; scales small, oboval; flesh good.

Iris silvery-yellow; gill-cover of 2 pieces; lateral line parallel with the back; vent between the ventral fins and nearer the head; fins greenish, without spots; tail bifid.

Dors. $\frac{11}{3}$: pect. 18: vent. $\frac{2}{3}$: an. $\frac{2}{3}$: caud. 18 rays.

Trifacia- Body with 16 brown longitudinal streaks; head with 3 black bands.

tus.

Inhabits *Sumatra*: 3 inches long. *Linn. Transf. 3. 34.*

Body with a black band, edged with yellow in the dorsal fin, another at the base of the anal fin, and a third through the middle of the tail; scales ciliate, large on the trunk and small on the head.

Iris brown; mouth very small; gill-cover of 2 pieces; lateral line near the back, and broken at the end of the dorsal fin; vent nearer the tail; fins yellow; tail somewhat rounded.

Dors. $\frac{13}{3}$: pect. 14: vent. $\frac{1}{2}$: an. $\frac{1}{2}$: caud. 16 rays.

28. SPARUS. Teeth (generally) strong; the grinders somewhat obtuse and crowded: lips doubled: gill-membrane 5-rayed; the cover scaly: body compressed: lateral-line curved on the hind-part: pectoral fins rounded.

A. Marked with a black spot.

auratus. Between the eyes a semilunar gold spot.

Lunulated Gilt-head.

Inhabits

Inhabits the *Mediterranean* and *European* seas; feeds chiefly on shell-fish, which it grinds with its strong teeth before it swallows; about 10 pounds weight; flesh rather coarse.

Iris silvery; back very sharp, dusky-green; on the upper part of the gills a black spot, and a purple one beneath; towards the tail a black spot; dorsal fin extending nearly the whole length of the back; tail much forked.

Dors. $\frac{11}{4}$: p. 16: v. 6: a. $\frac{3}{4}$: c. 17 rays

Annularis. Yellowish, with a black ocellate spot near the tail.
Inhabits the *Adriatic* sea.

Sargus. Body with black bands, and a black ocellate spot near the tail.

Inhabits the southern parts of *Europe*: body oval, broad; tail equal, obtuse; tail forked.

Dors. $\frac{11}{4}$: pect. 16: vent. 6: an. $\frac{3}{4}$: caud. $\frac{1}{2}$ rays.

Melanurus Body with longitudinal lines and a black ocellate spot near the tail.

Inhabits southern *European* seas.

Smaris. A black ocellate spot on each side; pectoral fins and tail red.

Inhabits southern parts of *Europe*.

Mæna. Body variegated; a blackish spot on the sides.
Inhabits the *Mediterranean* sea.

Saxatilis. Body whitish; a black ocellate spot at the base of the tail.

Inhabits *Surinam*.

Snout depressed; tail rounded.

Dors. $\frac{11}{4}$: p. 16: v. $\frac{1}{2}$: a. $\frac{3}{4}$: c. 17 rays.

Orphus. A black ocellate spot at the tail; head reddish; tail entire.

Puntazzo. Mouth cuspidate; tail entire, partly black.

Inhabits the shores of *Sardinia*; in size and colour nearly allied to *Sp. fargus*.

Argenteus

argentatus A black spot behind the gills.

Inhabits *Japan*: 6 inches long; body coated with silvery scales; before the eyes are 2 nostrils.

Dors. $\frac{2}{3}$; *pect.* 16; *vent.* $\frac{1}{2}$; *an.* $\frac{1}{2}$; *caud.* 18 rays.

notatus. Dorsal fin divided; gill-covers and tail spotted with black. Inhabits *Japan*; head coated with silvery scales nearly a finger long.

Dors. $\frac{13}{15}$, $\frac{1}{2}$, *pect.* 10, *vent.* $\frac{1}{2}$, *an.* $\frac{1}{2}$, *caud.* 14 rays.

B. Body mostly red.

erythrinus. Tail nearly entire; body red.

Inhabits *European*, *American* and *Japan* seas; is often eaten, but frequently proves poisonous; iris silvery.

Dors. $\frac{11}{12}$, *pect.* 19, *vent.* 6, *an.* $\frac{3}{4}$, *caud.* 18 rays.

insidiator. Body red, yellowish at the sides; tail a little forked.

Inhabits the *Indian* sea; 10 inches long; catches aquatic insects like the *Chætodon rostratus*, by its snout which it can lengthen out into a tube; body broadish, fat, coated with large scales of a metallic-green colour at the edge; when dead it becomes brown; flesh eatable.

Head compressed, scaly; *eyes* lateral; *jaws* divided, each with 2 large straight conic teeth in the middle; *gill-covers* very entire; first *lateral line* nearer the back, beginning at the end of the dorsal fin, the other straight; *vent* nearly in the middle; *fins* yellowish; *dorsal* and *anal* with green small bands, the last ray but one of the anal very long.

Dors. $\frac{2}{3}$, *pect.* 11, *vent.* 6, *an.* $\frac{3}{4}$, *caud.* 11 rays.

formosus Red; longitudinal marks on the body and tip of the tail blue.

This fish is preserved in the *Liverian Museum*, and Dr. SHAW, who has given a beautiful figure of it in the *Naturalist's Miscellany*, t. 31, suspects it to be *British*.

The fore-part of the *dorsal* and edge of the *anal* fins are blue.

pagrus. Reddish; skin at the end of the dorsal and anal fins gathered up and hiding the last rays. *Red Gilt-head.*

Inhabits *European* seas; in shape, teeth and size resembles *Sp. auratus*; iris silvery; insides of the *gill-covers*, mouth and tongue fine red; at the base of the *pectoral* fins a ferruginous spot; scales large; tail forked.

Vol. I. — 5 H

Spinifer.

Spinifer. Dorsal spines recumbent, the 5 middle ones filiform and longer.

Inhabits the muddy deeps of the *Red Sea* : a span and half long; body silvery-reddish; back with darker lines; scales broad, very entire, obscurely streaked; flesh very excellent.

Head sloping; crown convex, naked, punctured; eyes remote, iris silvery, above and beneath golden; lips very obtuse, the upper longer, protractile; fore-teeth in each jaw 4, conical, remote, the exterior ones larger, grinders numerous, crowded, hemispherical; gill-covers scaly, very entire; dorsal and anal spines placed in a cavity; lateral line curved, near and not parallel with the back; tail pale, the hinder edge red.

Dors. 1, 1, pect. 16, vent. 1, an. 1, caud. 16 rays.

Palpebratus. Chestnut-red; eyes pale yellow, covered with a loose yellowish membrane.

Inhabits *Amboina*; resembles a perch, but the head is obtuse. Head blackish; front sulcate; exterior lamina of the gill-cover with 2 spines; lateral line elevated, with 5 papillae beginning at the head and disposed in a row.

Dors. 22, pect. 16, vent. 6, an. 16, caud. 20 rays.

C. Body marked with lines.

Boops. Longitudinal lines dusky, the 4 lower ones gold and silvery. Inhabits the sea round *Japan*.
Dors. 30, an. 19 rays.

Cantharus. Tail without spots; body with yellow longitudinal lines. Inhabits the coast of *Tuscany*. Iris silvery.

Chromis. Tail bifid; second ray of the ventral fins setaceous. Inhabits southern *Europe*.
Dors. 23, pect. 17, vent. 6, an. 12, caud. — rays.

Salpd. Tail bifid; body with 11 tawny longitudinal lines. Inhabits the *Mediterranean sea*.
Dors. 11, pect. 16, vent. 6, an. 3, caud. 17 rays.

Sarba. Oblong-oval, silvery, with numerous obsolete stripes; ventral fins yellow with a golden line each side and between them.

Inhabits

Inhabits the herbaceous and coral coasts of *Arabia*: body broad covered with broad entire scales; longitudinal stripes brownish, each side 17; flesh pleasant.

Crown brown, polished, naked, subconvex; fore-teeth conic, grinders hemispherical; gill-covers entire; lateral line nearer the back and very little curved; pectoral fins lauceolate, whitish, half as long again as the ventral; ventral and anal yellow, the spines of the latter and caudal hid in a cavity; tail bifid, brown-glaucous, yellow beneath.

Dors. 15, pect. 16, vent. 6, an. 3, caud. 17 rays.

synagris. Tail bifid, red; body purplish with 7 gold lines each side. Inhabits South America.

Rhomboi-
des, Tail entire; back caniculate; body with yellow lines. Inhabits America: is there called the Salt-water Bream. Teeth obtuse; between the roots of the pectoral and dorsal fins a black spot; ventral, anal and caudal fins tawny. Dors. 12, pect. 16, vent. 6, an. 3, caud. 20 rays.

latus. Yellowish; head silvery; scales longitudinally imbricate. Inhabits Japan: 3 inches long, $1\frac{1}{2}$ broad. Dors. 12, pect. 12, vent. 6, an. 3, caud. 18 rays.

virgatus. Tail forked; body depressed, oblong, striped with scales. Inhabits Japan: $4\frac{1}{2}$ inches long: head obtuse. Dors. 13, pect. 12, vent. 6, an. 3, caud. 22 rays.

laffara. Silvery with 14 obsolete yellowish-brown brown lines each side; tail bifid. Inhabits the muddy shores of *Arabia*: 2 span long; flesh good. Fore-teeth in each jaw, strong, remote, obtuse; within the jaws are many hemispheric tubercles. Dors. 14, pect. 15, vent. 6, an. 3, caud. 18 rays.

berda. Whitish-ash; lateral scales with each a transverse brown band in the middle; dorsal spines recumbent. Inhabits the Red Sea; body oval; back gibbous with obsolete bands, beneath white; scales broad, round, entire. Crown naked, convex, sloping; iris white; nostrils large, linear, with a conic cirrus before them; upper lip longer, protractile; gill-covers entire; lateral line nearer the back; fins brown; pectoral lanceolate, hyaline; tail 2-lobed. Dors. 13, pect. 14, vent. 6, an. 3, caud. 16 rays.

- Chilenfis.* Tail bifid ; body with transverse brown lines each side.
 Inhabits *Chili* : 6 feet long, oval, depressed, coated with large rhomboidal margaritaceous scales spotted with white; flesh good.
 Head small, sloping, smoothish; eyes large, lateral, iris silvery; jaws subequal; fore-teeth conic, grinders obtuse; tongue smooth; gill-cover of 2 pieces; lateral line curved, oblique, parallel with the back; vent in the middle of the body; dorsal fin declined.
 Dors. 3, pect. 17, vent. 6, an. 4, caud. — rays.

D. Various.

- Chrysops.* Tail semilunar; back grooved; iris golden.
 Inhabits *Carolina* : body blueish.
 Head with blue blotches; pectoral, ventral, anal and caudal fins red.
 Dors. 11, pect. 17, vent. 6, an. 3, caud. 19 rays.
- Argyrops.* Tail semilunar; back grooved; iris silvery.
 Inhabits *Jamaica* and *Carolina* : resembles the last.
 Three first rays of the dorsal fin ending in a long bristle.
 Dors. 12: pect. 17: vent. 6: an. 5: caud. 20 rays.
- Dentex.* Tail bifid; body variegated; 4 of the teeth larger.
 Inhabits *Europe* and the *Cape of Good Hope*.
 Dors. 12: pect. 16: vent. 6: an. 11: caud. 15 rays.
- Spinus.* Tail bifid; dorsal spine recumbent.
 Inhabits *South America* and *India*.
 Body painted with blue recurved blotches.
 Dors. 13: pect. 16: vent. 5: an. 10: caud. 16 rays.
- Radiatus.* Tail entire; lateral line composed of linear scales divided into 3 bifid branches.
 Inhabits *Carolina* : above green, purple at the sides, beneath rufous; head varied with blue, yellow and green streaks.
 Iris golden, blue, and reddish; eyebrows punctured; upper lip ductile; teeth conic, the 2 fore-ones larger; gill-covers with a purple and a yellow spot; lateral line parallel with the back, deflected at the end of the dorsal fin; fins variegated; tail rounded.
 Dors. 12: pect. 12: vent. 6: an. 3: caud. 17 rays.

Virginia

Virginicus. Tail bifid ; body with 2 black transverse bands and numerous blue longitudinal lines.

Inhabits *North America*.

Gill-covers subferrate ; longitudinal lines parallel ; first band over the eyes, the other from the shoulders to the pectoral fins ; tail 2-lobed, obtuse.

Dorf. $\frac{11}{11}$: *pect.* 18 : *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 18 rays.

Mormyrus. Tail bifid ; body with numerous silvery and black bands.

Inhabits *Tuscany*.

Upper jaw longer.

Dorf. $\frac{15}{15}$: *pect.* 14 : *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 18 rays.

Capistratus. Tail entire ; body reticulate with white.

Inhabits *America* : body oblong ; scales loosely imbricate, with a white band bent into a right angle before the edge.

Fore-teeth large, above 2, beneath 4 ; *dorsal* fin nearly as long as the back.

Dorf. $\frac{2}{2}$: *pect.* 12 : *vent.* $\frac{1}{6}$: *an.* $\frac{1}{4}$: *caud.* 14 rays.

Galilæus. Tail entire ; body above greenish, beneath white.

Inhabits the lake *Genazareth* in *Gallilee*.

Dorf. $\frac{11}{11}$: *pect.* 11 : *vent.* 7 : *an.* $\frac{3}{3}$: *caud.* 20 rays.

Fuscescens. Brownish ; scales golden ; near the pectoral fins a black spot.

Inhabits *Japan* ; 4 inches long.

Dorf. $\frac{11}{11}$: *pect.* 16 : *vent.* $\frac{1}{6}$: *an.* $\frac{1}{2}$: *caud.* — rays.

* *Niger*. Back black ; sides brighter ; belly silvery.

Toothed Gilt-head.

Found in *Yorkshire*. *Pennant's Brit. Zool.* 3. 243.

Body 26 inches long, 10 broad ; eyes large ; teeth in the lower jaw slender, sharp, and on each side a slender canine tooth, in the upper jaw a single row ; first 7 rays of the *dorsal* fin high, the rest low, this fin and the *anal* covered with imbricate scales.

29. SCARUS. Instead of *teeth* strong bony processes, crenate at the edges: *gill-membrane* 5-rayed, the covers very entire: *lateral line* mostly branched.

Riculatus. Jaws continuous, smoothed, serrate, with most minute teeth at the edges, the teeth approximate, filiform, growing a little less from the middle of the lip.

Inhabits *Arabia*; near a yard long; body blueish with black spots and longitudinal yellow rivulets; feeds on herbs; scales very minute; flesh eatable, though the spines of the rays produce a temporary inflammation.

First and last ray of the *ventral* fins spinous; a spine before the *dorsal* fin; *tail* forked.

Dors. 11: *p.* 15: *v.* 5: *a.* 16: *c.* 17 rays.

Stellatus. Body oval, stellate with contiguous nearly hexagonal spots.

Inhabits *Arabia*, among banks of coral; half a foot long; feeds on herbs; scales round, small.

Crown flattish, with 2 longitudinal obtuse ridges, converging on the fore-part; *eyes* remote, iris yellow; *nostrils* each six double; *lips* equal; *gill-covers* scaly, striate behind; *operculum* covered by the *ventral* fins; *lateral line* not conspicuous; *pectoral* fins obtuse, yellowish, the rest black; *dorsal* and *anal* obtuse behind; *tail* 2-lobed, obtuse, with yellow blotches at the side.

D. 14: *p.* 16: *v.* 5: *a.* 17: *c.* 17 rays.

Globban. Tail even; jaws whitish; patches on the head and outer edge of the fins green-blue.

Inhabits *Arabia*; body whitish; scales with each a transverse blueish stripe in the middle and one at the base, also with brown longitudinal streaks.

Lips yellowish at the edge, green-blue at the base; *lateral line* double, one near the back, the other commencing before this finishes, and running straight through the middle of the tail; *pectoral* fins obtuse, hyaline, the upper edge at the base only blue, the rest reddish-violet; *dorsal* and *anal* with a green-blue longitudinal stripe at the base; *tail* truncate, greenish behind.

D. 19: *p.* 14: *v.* 6: *a.* 12: *c.* 12 rays.

Ferrug.

Ferrugineus.

Rusty-brown: jaws and outer edge of the fins green: tail even.

Inhabits *Arabia*; body oblong-oval.

Jaws bifid in the middle, thin at the edge, blue-green; *lateral line* double, one near the back, the other in the middle, terminating at the end of the first; *pectoral* fins rusty-brown; *ventral* and *anal* violet; *dorsal* and *caudal* yellowish, the latter with long lanceolate scales at the base.

Dors. 20: *pect.* 13: *vent.* 6: *an.* 12: *caud.* 13 rays.

Sordidus.

Jaws reddish: body rusty-brown: fins more dusky: tail even.

Inhabits *Arabia*: body narrow, oblong.

Jaws cleft, a little moveable, not covered by the lips, and thin at the edge; *lateral lines* 2, straight, one beginning where the other ends; *ventral* fins violet; *dorsal* brown, with 9 simple rays; *anal* with 3 simple rays; *pectoral* with one simple ray, and like the *caudal* yellowish.

Dors. 20: *pect.* 14: *vent.* 6: *an.* 12: *caud.* 12 rays.

Harid.

Tail forked, the base covered with scales in the middle.

Inhabits *Arabia*: body beneath pale violet; scales large and lax.

Head and *throat* naked; *jaws* eminent, cleft, the crenate edges in the lower sometimes enlarging into 2 subulate teeth; upper *lip* longer, with a canine conic tooth each side; *lateral line* straight, double, one near the back, beginning at the nape and reaching to the end of the dorsal fin, the other in the middle, reaching from the middle of the side to the tail; *pectoral* fins yellowish; *dorsal* and *anal* pale violet, coriaceous; *tail* lunate, violet.

Dors. 10: *pect.* 15: *vent.* 6: *an.* 13: *caud.* 11 rays.

Schlosseri.

Golden, with 5 brown spots each side: back brownish: tail nearly even.

Inhabits *Java*; size of *Cyprinus rutilus*; body compressed, broad, covered entirely with large scales.

Head a little thicker than the body, flattish above; *eyes* large; *iris* tawny; *mouth* ascending; lower *jaw* longer; *palate* bony, rough, the arch carinate; *tongue* flat, pointed, the tip loose; *pectoral* fins pointed; *ventral* triangular, joined to the belly

belly by a perpendicular membrane, with a lanceolate scale each side; *dorsal* a little fleshy at the base, extending half way down the back.

Dors. $\frac{1}{3}$: *pect.* 14: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{8}$: *caud.* 17 rays.

Varidis. Body green: lateral line interrupted.
Inhabits Japan; size of a carp. *Nat. Miscel. tab.* 286.

30. LABRUS. *Teeth* sharp: *lips* simple: *gill-membrane* with about 6 rays; the covers scaly: *dorsal* fin with a slender skin beyond the end of each ray: *lateral line* straight.

A. Tail forked.

Scarus. Transverse appendages at the sides of the tail.
Inhabits the coasts of Greece.

Cretensis. Body greenish: teeth 4.
Inhabits Candia and the adjacent places.

Anthias. Body entirely reddish.
Inhabits southern Europe and America.
Gill-covers serrate. This is more probably a perch:

Hepatus. Lower jaw longer: body with transverse black lines each side.
Inhabits the Mediterranean sea.
Dorsal fin with a black spot behind the spinous rays.
Dors. $\frac{10}{11}$: *pect.* 13: *vent.* 6: *an.* 9: *caud.* — rays.

Griseus. Tail subbifid: body pale grey.
Inhabits America.
CATESBY has figured this fish without pectoral fins.

Lanaris.

lunarius. Caudal fin truncate in the middle; dorsal and anal with a purple line; lips folded.

Inhabits *South America* and *India*; body oblong.

Dors. 11: *pect.* 15: *vent.* 6: *an.* 13: *caud.* 16 rays.

callus. Caudal fin truncate in the middle; dorsal and anal with violet lines at the base; lower lip with a doubling each side.

Inhabits *Arabia*, and is accounted very poisonous; body dusky-green with violet lines all over the body; belly with 2 blue stripes, and a green one in the middle; scales lax, striate, membranaceous at the edge, and marked with a transverse purple band.

Eyes remote, iris green, the edge of the pupil red; *teeth* in one row, the middle ones larger and remote, the rest contiguous; *lateral line* a little branched, bent downwards near the end of the dorsal fin; *pectoral* fins oval, blue, the middle violet; *ventral* blue, the second ray ending in a long thread; *dorsal* and *anal* blue at the outer edge; *tail* yellow in the middle, violet towards the sides and edged with blue.

Dors. 11: *pect.* 14: *vent.* 6: *an.* 13: *caud.* 15 rays.

purpurens. Caudal fin truncate in the middle; dorsal and anal with a longitudinal purple reflected stripe at the base.

Inhabits *Arabia*; 1½ foot long; body lance-truncate, dusky-green with 3 purple stripes each side, beneath blue; scales broad, rhombic, striate, loosely imbricate; flesh good.

Crown convex, naked brown, with a purple triangle each side before the eyes; eyes small, remote, iris purple; lips obtuse, equal, the upper protractile; *teeth* strong, in one row, the 2 middle ones larger, remote; before the transverse *nostrils* a round foramen with a cirrus; *gill-covers* naked, with a square purple spot, and hinder edge of the posterior, *pectoral* and *dorsal* fins green, the tip of the former with a large lunar black spot; *anal* and *ventral* blue; *tail* green, with purple spots; *lateral line* branched.

Dors. 11: *pect.* 15: *vent.* 6: *an.* 14: *caud.* 12 rays.

sittacus. Tail truncate in the middle; edge of the fins, abdominal stripe and marks on the head blue.

Inhabits *Arabia*; body greenish, with yellowish lines; scales striate.

Eyes small, remote; jaws of 2 bones, the lower with one tooth each side, upper 3; gill-cover with loose scales; lateral line slightly branched, double, the first near the back, the other in the middle; fins purple.

Dors. 20: pect. 13: vent. 6: an. 11: caud. 12 rays.

Niger.

Tail truncate in the middle; a dusky-green longitudinal stripe down the chin.

Inhabits *Arabia*: body black-brown; head with greenish-brown lines.

Jaws, which are bifid, blotches on the head and outer edge of the fins blue-green; lips edged with red, then greenish-brown; teeth in the upper jaw 2, canine, white; fins violet-brown; pectoral obscure, ferruginous, brown at the base; tail greenish, the angles lanceolate.

Dors. 20: pect. 14: vent. 6: an. 12: caud. 13 rays.

Chanus.

Head with 3 blueish rivulets each side; under the eye a square blue spot.

Inhabits *Constantinople*; above brown, beneath white.

Lower jaw longer, between the eyes are 2 furrows, diverging behind; anterior gill-covers serrate behind, posterior 3-toothed; pectoral, ventral and anal fins yellow; dorsal and caudal spotted with red.

Dors. $\frac{19}{5}$: pect. 15: vent. $\frac{1}{6}$: an. $\frac{3}{2}$: caud. 17 rays.

Operculatus.

Body with 10 brown bands; gill-covers with a brown spot.

Inhabits *Asia*.

Dors. $\frac{17}{10}$: pect. 16: vent. $\frac{1}{6}$: an. $\frac{13}{2}$: caud. 16 rays.

Pavo.

Body varied with green, blue, blood-red and hoary.

Inhabits the *Mediterranean sea*, near *Syria*.

Dors. 31: pect. 14: vent. 9: an. $\frac{3}{4}$: caud. 16 rays.

Auritus.

Gill-covers fin-shaped.

Inhabits fresh waters of *North America*.

Iris yellow; gill-covers with a long, obtuse, black membrane to the tip; tail 2-lobed.

Dors. $\frac{17}{11}$: pect. 15: vent. 6: an. $\frac{3}{2}$: caud. 17 rays.

Trichopterus.

Ventral fins with one ray.

Inhabits

Inhabits the *Indian* ocean; 4 inches long; body carinate behind, obscurely waved with brown and pale, the middle of the sides and base of the tail with a round black-brown spot, surrounded by a circle of paler.

Head pale spotted with brown and entirely covered with scales; *iris* golden; *mouth* small, ascending; *jaws* empile, rough; *vent* at the thorax; *lateral line* a little interrupted near the tail; *pectoral* fins thin, pale, the rest brown; *anal* and *caudal* spotted with white; *tail* 2-lobed.

Dors. 11: *pect.* 9: *vent.* 1: *an.* 4: *caud.* 16 rays.

Falcatus. Dorsal and anal fins falcate, the 5 first rays unarmed.

Inhabits *America*; body silvery.

Teeth sharp; *ventral* fins small.

Dors. 17: *pect.* 17: *vent.* 5: *an.* 3: *caud.* 20 rays.

Rufus. Tail lunate; body entirely tawny.

Inhabits *America*.

Dors. 23: *pect.* 17: *vent.* 6: *an.* 12: *caud.* 16 rays.

Zeylanicus Tail lunate; body above green, beneath pale purple.

Inhabits *Ceylon*; 1½ foot long; flesh good.

Head blue; *gill-covers* green with purple lines; *pectoral* fins with a purple spot in the middle and edged with fine blue; *ventral* blue; *dorsal* and *anal* blueish-purple, edged with green; *tail* yellow in the middle, each side streaked with red, blue at the base.

Oyena. Body silvery; rays of the dorsal fin 2—5 nearly unarmed.

Inhabits the sandy shores of *Arabia*; above 6 inches long; body oblong; belly straight; sometimes painted with red interrupted stripes.

Lips equal, the upper protractile; *teeth* numerous, very short; *lateral line* nearer the back and nearly parallel; *tail* 2-lobed, the lobes lanceolate; *fins* glaucous.

Dors. 19: *pect.* 16: *vent.* 6: *an.* 3: *caud.* 16 rays.

B. Tail entire.

Hiatula. Anal fin 0; body with 6—7 black bands.

Lip retractile, wrinkled within; *teeth* in the jaws sharp, in the palate orbicular; *gill-covers* punctured at the edge; spinous rays of the *dorsal* fin equal, black on the hind-part.

Dors. 22: *pect.* 16: *vent.* 6: *an.* 0: *caud.* 21 rays.

Marginalis Brownish; edge of the dorsal and pectoral fins tawny.
Inhabits the Ocean.

Dors. 22: pect. 17: vent. 6: an. 22: caud. 17 rays.

Ferrugineus. Body ferruginous, without spots.
Inhabits India,

Dors. 22: pect. 16: vent. 6: an. 22: caud. 17 rays.

Fulvis. Sides blueish, with a longitudinal tawny indented stripe each side.

Inhabits the Mediterranean and Red seas; body oblong, blackish; 2 fore-teeth in the upper jaw larger.

Dors. 22: pect. 13: vent. 6: an. 22: caud. 12 rays.

Paroticus. Lateral line curved; fins rufous; gill-covers sky-blue.
Inhabits India.

Dors. 22: pect. 12: vent. 6: an. 14: caud. 14 rays.

Suillus. Dorsal fin filamentous; above the tail a black spot; dorsal spines 9.

Inhabits the European ocean.

D. 22, p. 13, v. 6, a. 22, c. 14 rays.

Striatus. Dorsal fin filamentous; body with white and brown lines.
Inhabits America.

Dors. 22: pect. 17: vent. 6: an. 22: caud. 12 rays.

Gusza. Brown; tail rounded, the rays extending beyond the membrane.

Inhabits the Ocean.

Dors. 22: pect. 16: vent. 6: an. 13: caud. 15 rays.

Ocellaris. Dorsal fin filamentous; an ocellate spot at the base of the tail.

Dors. 22: pect. 15: vent. 6: an. 22: caud. 13 rays.

**Tinca*. Upper jaw turned up; tail rounded. *Wrasse*. *Old-wife*.
Inhabits deep waters on the British coasts; grows to 5 pounds weight; feeds on shell-fish and testaceous animals; varies much in its colours, sometimes dirty-red, sometimes beautifully striped.

Irids red; teeth in 2 rows, the first conic, the second minute; mouth able to be drawn in or protruded.

D. 22: p. 14: v. 6: a. 22: c. 14 rays.

- Ballan.* Body yellow spotted with orange; above the nose a deep sulcus; farthest gill-cover with a depression radiated from the centre. *Ballan Wrasse.*
Found during summer in great shoals at Scarborough; size of the last, of which it is probably only a variety.
Dorf. 31: *pect.* 14: *vent.* 6: *an.* 12: *caud.* — rays.
- Bimaculatus.* Dorsal fin filamentous; a brown spot on the middle of the body and at the base of the tail. *Bimaculated Wrasse.*
Inhabits the *Mediterranean* and *British* seas; body pale.
D. 12: *p.* 16: *v.* 6: *a.* 3: *c.* — rays.
- unflatus.* Dorsal fin filamentous; body with longitudinal lines spotted with brown.
Inhabits *Surinam*: second ray of the ventral fins setiform.
Dorf. 16: *pect.* 14: *vent.* 6: *an.* 3: *caud.* 16 rays.
- lelops.* Dorsal fin filamentous, and with the anal variegated; behind the eyes a brown crescent.
Inhabits southern *European* seas.
Dorf. 16: *pect.* 13: *vent.* 6: *an.* 3: *caud.* 12 rays.
- iloticus.* Dorsal, anal and caudal fins clouded.
Inhabits *Egypt*, chiefly in the *Nile*.
Dorf. 17: *pect.* 14: *vent.* 6: *an.* 3: *caud.* 17—20 rays.
- fragus.* Lips doubled; dorsal fin with 30 rays.
Inhabits *Europe*; a very obscure species.
Dorf. 17: *pect.* 15: *vent.* 6: *an.* 3: *caud.* 13 rays.
- pestris.* Dorsal fin filamentous; tail with a brown spot at the upper edge.
Inhabits the rocky shores of the *Norway* coasts.
D. 16: *p.* 14: *v.* 6: *a.* 3: *c.* 13 rays.
- itis.* Dorsal fin filamentous; belly spotted with cinereous and brown.
Dorf. 17: *pect.* 15: *vent.* 6: *an.* 3: *caud.* 14 rays.
- idis.* Green, with a blue line each side.
Inhabits the *Mediterranean*. *Dorf.* 18 rays.

Luscus.

- Luscus.** All the fins yellow ; upper eyelid black.
Dors. $\frac{18}{3}$: *pect.* 14 : *vent.* 6 : *an.* $\frac{3}{4}$: *caud.* 14 rays.
- Livens.** Tail rounded ; dorsal fin filamentous ; body livid-brown.
 Inhabits the *Mediterranean* : about a foot long.
D. $\frac{18}{3}$: *p.* 14 : *v.* $\frac{1}{2}$: *a.* $\frac{3}{4}$: *c.* 11 rays.
- Tardus.** Body oblong, green, spotted ; iris golden.
 Inhabits *Europe* ; hardly a foot long ; body sometimes green, the pectoral fins pale yellow, the ventral blue ; sometimes deeper green, shining beneath the lateral line, with golden spots on the chin, and white ones in the middle ; sometimes above yellow, with white spots, beneath silvery, with red veins.
Dors. $\frac{18}{3}$: *pect.* 14 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 13 rays.
- Exoletus.** Dorsal fin filamentous ; body with blue lines ; anal spines 5.
 Inhabits the *Atlantic* and *Norway* seas, rarely *Greenland*.
Dors. $\frac{12}{3}$: *pect.* 13 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 13 rays.
- Sinenfis.** Dorsal fin filamentous ; body livid ; crown retuse.
 Inhabits *Asia*.
Dors. $\frac{12}{3}$: *pect.* 13 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 12 rays.
- Japonicus.** Entirely of a fine full yellow.
 Inhabits *Japan* ; 6 inches long.
Dors. $\frac{17}{3}$: *pect.* 16 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{4}$: *caud.* 18 rays.
- Boops.** Lower jaw longer ; dorsal fins 2.
 Inhabits *Japan* ; eyes very large ; teeth in the lower jaw large and sharp.
Dors. $\frac{12}{3}$: *pect.* 14 : *vent.* $\frac{1}{2}$: *an.* 11 : *caud.* 12 rays.
- Cromis.** Dorsal fins nearly united ; second ray of the anal fin very large, thick, and compressed.
 Inhabits *Carolina* ; body dull silvery, with brown bands.
Gill-covers 1-toothed, not serrate ; first ray of the anal fin very short and rigid.
Dors. 10, $\frac{12}{3}$: *pect.* 18 : *vent.* 6 : *an.* $\frac{3}{4}$: *caud.* 19 rays.

aris. Body oblong; all the rays of the dorsal fin spinous except the last.

Inhabits *South America* and *India*.

Dors. $\frac{22}{11}$: *p.* 12 : *v.* 6 : *a.* 15 : *c.* 12 rays

ica. Tail even; back straight; crown smooth; body with indented yellowish stripes each side.

Inhabits the sea round *Constantinople*.

Head above brown, beneath reddish-white; hinder *gill-covers* unarmed, ending in a rounded angle and blue at the tip; *lateral line* above saw-toothed; *dorsal* and *anal* fins reddish; *pectoral* with a blue spot at the base.

Dors. $\frac{8}{4}$: *pect.* 14 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{3}$: *caud.* 15 rays.

2. Body greenish, with white and yellow waves; between the eyes an impressed hollow, and before the hollow a groove.

Inhabits *Constantinople*; body above white, with yellow rivulets; belly straight.

Iris green; middle *teeth* very large; anterior *gill-covers* slightly serrate behind, posterior unarmed; *lateral line* interrupted; *pectoral* fins yellowish, without spots, the rest obscure, yellow spotted with blue.

Dors. $\frac{18}{9}$: *p.* 14 : *v.* $\frac{1}{2}$: *a.* $\frac{3}{3}$: *c.* 15 rays.

ina. Pectoral fins yellow, ventral blue, the rest violet spotted with blue.

Inhabits *Constantinople*; body oblong-oval, above brown, beneath whitish, the sides greenish-yellow with 3 lines each side, each composed of a double row of red spots.

Head spotted with red on the sides; under the eye an irregular blue line; before the *nostrils* an oblique gibbosity; *iris* blue; anterior *gill-covers* serrate behind, posterior notched.

Dors. $\frac{15}{7}$: *pect.* 15 : *vent.* $\frac{1}{2}$: *an.* $\frac{3}{3}$: *caud.* 15 rays.

ento. Greenish-brown; filaments of the first dorsal spines twice as long as the ray.

Inhabits *Arabia*; body lanceolate, spotted with violet on the fins, crown, and under the eyes; sometimes fine green; scales large, entire, rounded, disposed in 9 rows from the belly to the back.

Iris

Iris above and beneath brown, the sides yellow; *lips* on the upper protractile; besides the row of small teeth, in the middle of each jaw are 4 fore-teeth, 4 times as long as the rest; anterior *gill-covers* deeply toothed, the posterior unarmed; *lateral line* elevated, nearer the back and parallel with it.

Dors. 2: *pect.* 13: *vent.* 4: *an.* 3: *caud.* 12 rays.

Ocellatus. Greenish, with a scarlet ocellate spot behind each eye.

Inhabits *Syria*: body suboval; back yellowish-brown; head marked with irregular blue lines.

Gill-covers with an oblong oblique blue spot, surrounded with a scarlet circle, from which both above and below proceed a scarlet line, the anterior truncate behind and slightly bent, the posterior unarmed; *tail* linear.

Dors. 14: *pect.* 11: *vent.* 4: *an.* 3: *caud.* 15 rays.

Lunulatus Greenish-brown with darker bands; scales with each a ferruginous band; breast speckled with red.

Inhabits *Arabia*; a foot long; scales broad, entire, grooved.

Head somewhat compressed; *iris* greenish-brown; *gill-covers* with a red spot towards the base, the hinder part generally marked with a tawny lunule, surrounded with black on the membrane; *gill-membrane* greenish, with 2 tawny spots; *lateral line* interrupted; *pectoral* fins rounded, yellow, the rest green; the spaces between the rays red or spotted with red; *tail* rounded.

Dors. 2: *pect.* 12: *vent.* 6: *an.* 3: *caud.* 13 rays.

• *Trimaculatus.* Red, with 2 large spots at the lower part of the dorsal fin, and a third between this fin and the tail.

Trimaculated Wrasse.

Inhabits *British* coasts; 8 inches long; body oblong; *lateral line* long; *pectoral* fins and tail rounded; *lateral line* curved towards the tail.

Dors. 10: *pect.* 15: *vent.* 4: *an.* 3: *caud.* — rays.

• *Variiegatus.* Red, with 4 lateral parallel olive stripes, and as many blue ones.

Striped Wrasse.

Inhabits *British* coasts; 10 inches long; body oblong.

Lips large, double; *gill-covers* cinereous striped with fine red low; at the beginning of the *dorsal* fin a broad band of rich blue, middle part white, the rest red; at the base of the *pectoral*

pectoral fins a dark olive spot; ventral and anal fins tipped with fine blue; tail rounded, upper half blue, lower yellow.

Dors. 7, pect. 15, vent. 6, an. 3, caud. — rays.

Gibbus. Varied with blue and orange; tail rounded; above each eye a dusky semilunar spot. *Gibbous Wrasse.*

Inhabits *British* coasts; 8 inches long; scales large.

Head sloping; nearest gill-covers finely serrate; back very much arched; dorsal and anal fins sea-green spotted with black; pectoral yellow, transversely striped with red at the base; ventral and caudal pea-green; tail large.

Dors. 16, pect. 13, vent. 6, an. 3, caud. — rays.

Silvaceus. Body olive-green; gill-covers tipped with blue; tail with a black spot.

Inhabits the *Mediterranean*: 2 inches long; body oblong compressed, beneath inclining to silvery.

Head pointed, somewhat silvery; iris green; fore-teeth sharp, intermediate ones remote; anterior gill-cover deeply serrate, the posterior ones blue at the tip, surrounded with a scarlet ring; fins the colour of the body; tail pale rufous.

Dors. 13: pect. 13: vent. 4: an. 3: caud. 12 rays.

Fuscus. Body brown, with blue lines and spots.

Inhabits the *Mediterranean*: 3 inches long; body compressed, oblong, beneath whitish.

Head pointed, and marked with blue rivulets; iris white, within chestnut; mouth small; anterior gill-cover serrate; lateral line a little arched, the hind-part crooked; dorsal and caudal fins brown spotted with blue; pectoral rufous tipped with blue; ventral without spots; anal reddish dotted with blue.

Dors. 16: pect. 12: vent. 6: an. 3: caud. 13 rays.

Maculatus. Body finely striped with olive; dorsal fin with a black spot on the hind part.

2. Reticulate with dusky and greenish-silvery.

Inhabits the *Mediterranean*, 2) the *Adriatic*: 3 inches long; body oval, compressed, with about 10 pale blue longitudinal parallel straight lines.

Iris reddish-white, with an inner circle of red; teeth in one row, the fore-ones larger; anterior gill-covers serrate; pectoral fins blueish.

Dors. 13, pect. 14, vent. 6, an. 2, caud. 13 rays.

Venosus. Green, with red anastomosing veins; gill-covers and dorsal fin with a black spot.

Inhabits the *Mediterranean*: body oval, compressed, 3 inches long.

Sides of the head with a few red longitudinal lines; filament and band on the dorsal fin red.

Dors. $\frac{15}{3}$: pect. 13: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 13 rays.

Griseus. Body grey with darker spots; tail with a black spot at the base.

Inhabits the *Mediterranean*; 3 inches long; oval compressed.

Cheeks with a few blue lines; iris green; mouth small; teeth small, the fore-ones larger; fins reddish, with dusky-yellow spots; tail yellowish towards the base.

Dors. $\frac{15}{3}$: pect. 13: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 13 rays.

Guttatus. Body reddish, variegated with black; tail with a spot in the middle of the base.

Inhabits the *Mediterranean*; 3 inches long; body oblong, compressed, with very minute white specks in rows, and black spots.

Iris green; under each eye 2 oblique black lines; fins pale rufous; anal speckled with white, and with the ventral sometimes green.

Dors. $\frac{15}{3}$: pect. 13: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

Adriaticus. Body with 4 broad transverse brown bands; dorsal fin on the fore-part 10-spined, on the hind-part with black ocellate spots.

Inhabits the *Ariatic*; body pale, 3 inches long.

Head with oblique tawny lines; iris yellowish; teeth very small; anterior gill-cover ferrate; ventral and anal fins black, the latter tipped with yellow.

Dors. $\frac{10}{2}$: pect. 14: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

**Cornubiensis.* Near the tail a large black spot; first rays of the dorsal fins tinged with black. Goldfuss.

Inhabits the *Cornish* coasts; about a palm long.

Tail even at the end; near the vent a black spot.

Dors. $\frac{14}{3}$, pect. 14, vent. $\frac{1}{2}$, an. $\frac{3}{2}$, caud. — rays.

- Comber.* Back, fins and tail red ; belly yellow ; tail rounded.
Comber.
 Inhabits the coasts of *Cornwall* ; body slender, small.
 Beneath the *lateral line* a parallel, smooth, even, silvery stripe,
 reaching from the gills to the tail.
Dors. $\frac{15}{31}$, *pect.* 14, *vent.* $\frac{1}{6}$, *an.* $\frac{3}{10}$, *caud.* — rays.
- Coquus.* Body purple and dark blue, beneath yellow ; tail rounded.
Cook.
 Inhabits the *Cornish* coasts ; of a small size.
- Mixtus.* Variegated with yellow and blue ; fore-teeth larger.
 Inhabits the coasts of *Dalmatia* ; very much resembles *L. pavo*.
- Fulvus.* Body tawny ; tail convex.
 Inhabits *America*.
- Varius.* Variegated with purple, green, blue and black.
 Inhabits the *Mediterranean*.
- Merula.* Body blackish-blue.
 Inhabits *Europe*.
- Cynædus.* Pale yellow ; back purple ; dorsal fin reaching from head
 to tail.
 Inhabits the *Mediterranean*.

31. SCIÆNA. Head covered with scales ;
 scales strongly fixed ; gill-membrane
 with about 6 rays ; the covers scaly ;
 dorsal fins 2, frequently concealed in
 longitudinal cavity.

- Cappa.* Sides of the head with a double row of scales.
 Inhabits the *Mediterranean*.
Dors. 11, 23, *pect.* 16, *vent.* $\frac{1}{6}$, *an.* $\frac{3}{10}$, *caud.* 17 rays.

- Lepisma*. Dorsal fin concealed between 2 scaly leaves.
Dors. 10, 19, *pect.* 11, *vent.* $\frac{1}{2}$, *an.* $\frac{1}{2}$, *caud.* 13 rays.
- Unimaculata*. A brown spot on the middle of each side.
 Inhabits the *Mediterranean*.
Dors. 11, 21 : *pect.* 15 : *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* 17 rays.
- Umbra*. Body varied with black : ventral fins very entire.
 Inhabits the *Mediterranean* and *European* seas.
Dors. 10, 26 : *pect.* 18 : *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* 18 rays.
- Cirrofa*. Upper jaw much longer, lower with a cirrus.
 Inhabits *European* and *American* seas ; about a foot long.
 Body yellowish, beneath somewhat silvery, with oblique blackish stripes ; tail semilunar. *Nat. Miscel.* 366.
Dors. 9, 25 : *pect.* 15 : *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* — rays.
- Hamrur*. Red, with a copper gloss ; fins more dusky ; mouth subvertical ; scales membranaceous at the edges.
 Inhabits *Arabia* ; body oblong, scales small.
Pupil hyaline, iris carmine ; upper lip protractile ; teeth firm, rigid, subulate, equal, remote ; anterior gill-covers serrate, posterior pointed behind ; lateral line rising near the head and afterwards parallel with the back ; pectoral fins reddish, half as long as the ventral ; tail lunate.
Dors. 10, 24 : *pect.* 18 : *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* 16 rays.
- Fulvisquamia*. Yellowish, with longitudinal golden stripes ; sides with black spot ; dorsal fins convex.
 Inhabits *Arabia* : stripes 5—6 sometimes obsolete.
Iris golden ; teeth strong, remote, conic-subulate ; anterior gill-cover serrate, a little notched behind ; lateral line near the back, a little curved ; fins yellow ; first dorsal brown.
Dors. 8, 15 : *pect.* 15 : *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* 15 rays.
- Kasmira*. Yellowish, with 4 large blue stripes each side.
 Inhabits *Arabia*.
 Crown white, with 7 small blue obsolete stripes each side ; gills somewhat remote, iris yellow ; lower lip shorter ; teeth conic ; anterior gill-covers sinuate, posterior unarmed ; lateral line striate with scales ; second spine of the dorsal larger than the third ; tail lunate, with sometimes a large brown spot near it between the stripes.
Dors. 10, 25, *pect.* 16, *vent.* $\frac{1}{2}$, *an.* $\frac{1}{2}$, *caud.* 17 rays. *Bohar.*

Bohar.

Reddish, with whitish lines and clouds.

Inhabits *Arabia*; body oblong, coated with smooth scales; of a very doubtful genus; when alive has 2 large spots on the back which disappear when the fish is dead.

Before the *nostrils* are 2 short cirri; in the upper *jaw* are 2 subulate teeth reaching without the lower, the middle ones of the lower remote; *lateral line* nearer the back; *dorsal* and *anal* fins rounded behind, the unarmed part of each scaled, the spines of the latter growing gradually larger; *ventral* connected by an intermediate membrane; *tail* forked.

Dors. 10, 25, *pect.* 16, *vent.* 1, *an.* 2, *caud.* 17 rays.

Gibba.

Reddish, dotted with white; back gibbous.

Inhabits *Arabia*; body oval; scales red, tipped with white.

Upper middle *teeth* contiguous, the canine distant, and twice as large as the others; *dorsal* and *anal* fins rectangular behind.

Nigra.

Body black; belly whitish-brown.

Inhabits *Arabia*; scales very entire.

Crown convex, naked; *iris* within white, without black; *lips* obtuse, the upper protractile; *teeth* remote, subulate, larger towards the middle, where there is a vacancy; *throat* armed with numerous small, fixed teeth; *palate* white, smooth; anterior *gill-cover* recurved behind and deeply indented; *lateral line* nearer and parallel with the back; *pectoral* fins falcate at the tip, half as long again as the ventral, scaly at the base; *tail* a little truncate.

Dors. 10, 10: *pect.* 16: *vent.* 1: *an.* 2: *caud.* 17 rays.

Argentata. Scales above blackish, with silvery edges and tips, beneath pale rufous, with pale edges.

Inhabits *Arabia*; resembles *S. bohar*.

Head with a curved blue patch, running under the eye towards the mouth; lower *lip* longer; lower lateral *teeth* in a row of larger ones, and behind these a row of smaller; posterior *gill-covers* ending in an acute angle; *fins* reddish-brown; *dorsal* glaucous, edged with pale rufous; spines of the *anal* growing gradually longer and larger.

Dors. 10, 24: *p.* 17: *v.* 1: *a.* 2: *c.* 18 rays.

Rubra.

Dusky-red, beneath white, with 8 longitudinal reddish-white stripes each side, growing dusky towards the back.

Inhabits

Inhabits *Arabia*; scales a little spinous.

Crown with small recurved spines; eyes surrounded with a bony ring, serrate with spines and 2-horned on the fore-part, its shining red; upper lip protractile; teeth setaceous, short, thick; anterior gill-cover covered with spines, posterior with 3 spines behind, the third small and spinous; dorsal fins connected, the first whitish, with 2 longitudinal red stripes, the other shorter and scaly at the base; 2 first spinous rays of the anal small, the third large and thick; ventral whitish at the exterior edge, black at the posterior; tail yellowish in the middle with 5 spinous rays each side.

D. 1, 7: *p.* 19: *v.* 6: *a.* 14: *c.* 15 rays.

Murdjan. Lips retuse; body with a metallic splendor, beneath paler.

Inhabits *Arabia*; body oblong oval; scales broad, toothed.

Crown flat, with 4 elevated lines, branched behind; eyes surrounded by a bony ring, beneath indented; upper lip shorter, protractile; teeth small, numerous, crowded; tongue triangular, reddish, rough; gill-covers scaly; saw-toothed, the posterior ones with one spine behind; lateral line nearer and parallel with the back; fins red; tail forked and with the central white on the outer edge.

Dors. 10, 10, *pect.* 13, *vent.* 1, *an.* 3, *caud.* 17 rays.

Sammara. Back red with a brassy gloss; sides silvery with 10 darker stripes each side; lateral scales with a whitish spot surrounded with black.

Inhabits *Arabia*: half a span long; beneath silvery.

Anterior gill-covers with a strong spine, posterior with 2 spines; pectoral fins reddish; ventral white; first dorsal with 3 spines in the middle, the hinder hyaline, the second and third ray red; anal hyaline, the first and last ray red, the first unarmed, the last spinous; tail hyaline, each edge red, with 6 spinous rays above and 5 beneath.

Dors. 10, 15: *pect.* 14: *vent.* 1: *an.* 2: *caud.* 20 rays.

Spinifera. Red; dorsal fins connected; head spinous; anterior gill-covers with a very long spine.

Inhabits *Arabia*: 3 spans long; behind the eyes each side and at the base of the pectoral fins a dusky spot; scales broad, indented.

Crown

Crown with 2 fasciculi of elevated lines behind the eyes ; before the eyes a long deep unequal cavity ; *eyes* surrounded with a spinous bony ring, iris red ; anterior *gill-covers* serrate, with a strong white spine beneath, posterior naked behind, striate and spinous at the edge ; *back* gibbous at the neck and sloping behind the second fin ; *tail* forked.

Dors. 10, 15 : *pect.* 14 : *vent.* 4 : *an.* 1 : *caud.* 20 rays.

Ghanam. Whitish ; sides with a double white stripe.

Inhabits *Arabia* : *gill-covers* spinous.

Lateral line parallel with the back, with a white stripe each side ; another stripe composed of dusky quincuncial spots extending from the crown to the end of the dorsal fin.

Jarbus. Silvery, with 2 curved stripes each side meeting on the back and forming a ring ; spot on the middle of the back and 2 bands on the front black.

Inhabits *Arabia* : under the stripe each side a brown line, and beneath this a yellowish one.

Iris blue ; *teeth* subulate ; *lateral line* curved, nearer the back ; first *dorsal* fin with 2 black spots, second with 3 ; *pectoral* and *anal* with a yellow blotch ; *tail* with 4 brown lines.

Dors. 10, 20 : *pect.* 13 : *vent.* 4 : *an.* 1 : *caud.* 17 rays.

Stridens. Silvery-blue, with 3—5 brown longitudinal lines each side.

Inhabits *Arabia* : a span long ; feeds on herbs, and when first taken out of the water utters a small shriek.

Lateral line curved, nearer the back.

Dors. 11, 15 : *pect.* 16 : *vent.* 4 : *an.* 1 : *caud.* 16 rays.

Gaterina. Blueish-yellow, speckled with black, and a few larger spots.

2. Body with 4 brown stripes each side ; fins yellow.

Inhabits *Arabia* ; varies in size and flavor.

Lips obtuse, fat ; *tongue* white ; *palate* red ; *gill-covers* as in *S. mardjan* : *pectoral* and *ventral* fins yellow, without spots.

Dors. 13, 13, *pect.* 17, *vent.* 4, *an.* 1, *caud.* 17 rays.

Argentea. Silvery, above speckled with black.

Inhabits *Arabia* ; scales ciliate.

Crown

Crown scaly ; between the *nostrils* 2 elevated lines ; *iris* silvery, above brown ; *teeth* numerous, setaceous, moveable, the outer row larger ; *dorsal* fins connected, spotted with black, the first rounded, the other linear ; *ventral* and *anal* reddish, pointed ; *tail* a little forked.

Dors. 11, 16, *pect.* 16, *vent.* 1, *an.* 3, *caud.* 16 rays.

Nebulosa. Body with longitudinal blue and yellowish-brown clouds.
2. Body with obsolete longitudinal violet stripes.

Inhabits *Arabia*.

Head sloping ; *fins* filamentous ; *tail* forked.

Dors. 10, 20, *pect.* 13, *vent.* 1, *an.* 3, *caud.* 17 rays.

Mahsena. Body brown, lined, and with transverse waved silvery bands.

Inhabits *Arabia* : body oblong-oval ; scales brown, with tooth-like ramifications.

Crown smooth, sloping ; before the *nostrils* are conic cartilages ; 18 conic *teeth* in each jaw, those of the throat setaceous, the grinders obtuse, broad ; *gill-covers* very entire ; *fins* filamentous, violet-red ; *tail* forked.

Dors. 10, 20, *pect.* 13, *vent.* 1, *an.* 3, *caud.* 17 rays.

Harak. Greenish ; fins pale red ; beneath the lateral line a black linear spot each side.

Inhabits *Arabia* : very much resembles the last.

Fore-teeth 4 in each jaw, and behind them other numerous setaceous ones ; *palate* red ; anterior *gill-covers* scaly behind the eyes ; *gill-membrane* entire, straight, with elevated rivulets ; lateral spot rectangular, surrounded with a brown colour.

Dors. 10, 23, *pect.* 13, *vent.* 1, *an.* 3, *caud.* 17 rays.

Ramak. Greenish-white, with obsolete longitudinal yellowish-violet lines ; fins reddish.

2. A transverse membranaceous lamina in each jaw.

Inhabits *Arabia* ; except in colour resembles *S. Mahsena*.

Middle *teeth* a little larger. *Dors.* 10, 29.

Grandoculis. Blueish ; lower lip gibbous.

Inhabits *Arabia* ; oblong-oval, with obsolete lines.

Space between the eyes tuberculate; lips fleshy, covered with red papillæ; fore-teeth in each jaw 6, grinders broad, flat, short; gill-covers entire; fins violet; pectoral pale red; dorsal and anal with a lobe on the hind-part; tail forked; the spaces between the rays scaly from the base to the tip.

Cinereascens Greenish-ash, with longitudinal yellow lines.

Inhabits *Arabia*; body oblong-oval; scales very entire, rhombic, whitish with a rusty-yellow spot at the base each side.

Teeth filiform, in one row; gill-covers entire, scaly; pectoral fins white on the outer edge; the unarmed part of the dorsal and anal elevated, obliquely truncate behind.

Dors. 11, 23: pect. 18: vent. 4: an. 3: caud. 15 rays.

Safgha Oblong, silvery, without spots; tail forked.

Inhabits the *Arabian* coasts. Dors. 8, 8.

Jaws indented, the lower longer; gill-covers finely serrate.

Armata. Silvery; between the head and dorsal fin a rigid horizontal spine; tail forked.

Inhabits *Arabia*; body compressed, oval pointed.

Spine behind the head pointing forwards; lateral line straight; fins white; dorsal and anal tip with black; tail brown, the inner edge whitish.

32. PERCA. Jaws unequal: teeth sharp, incurved: gill-covers scaly, of 3 laminae, the upper serrate: gill-membrane 7-rayed: lateral line arched with the back: scales hard, rough: fins spinous: vent nearer the head than the tail. *Perch.*

A. Dorsal fins 2, distinct:

Fluviatilis. Second dorsal fin with 16 soft rays. *Common P.*

Inhabits clear streams of *Europe* and *Siberia*: grows to 2 feet long; back and part of the sides deep green, with 5 broad black bars, which are sometimes dark-green or blue and very rarely wanting; belly white tinged with red; swims with

Vol. I. — 5 L

great

great swiftness at a certain height in the water; is tenacious of life, but eagerly takes a bait; feeds on aquatic insects and smaller fish; spawns in May and June, and is very prolific; it has no real air-bladder, and from its integuments may be obtained a kind of glue; flesh very delicate.

Eyes large; *iris* blueish, edged within with yellow; *nostrils* double, near the eyes, with 4 pores before them; *nose* large; *jaws* nearly equal; *teeth* small, in the jaws and on the roof; *tongue* short, smooth; aperture of the *gills* large; *dorsal* fins violet, the first with spinous rays and a black spot at the end; *pectoral* reddish, the rest red; *tail* a little forked.

Dors. 14, 16: *pect.* 14: *vent.* 6: *an.* 11: *caud.* 17 rays.

Americana-
nus.

Red; second dorsal fin with 13 rays.

Inhabits brackish waters of *North America*; lower lip, chin, gill-membrane and upper edge of the covers red.

Dors. 9, 11: *pect.* 15: *vent.* 6: *an.* 11: *caud.* 18 rays.

Lucioperca Second dorsal fin with 23 rays.

Inhabits deep clear waters of *Europe* and northern *Perca*; grows to 4 feet long; is very voracious, feeds on other fish even of its own tribe; spawns in May, and is extremely prolific; flesh tender and good.

Head oblong, devoid of scales and obtuse on the fore-part; *eyes* clouded, *iris* chestnut, *pupil* glaucous; upper *jaw* a little longer; *teeth* unequal, about 40; *cheeks* tumid, varied with green and red; *back* with obsolete mixed livid and red spots; *sides* silvery; *belly* white; *pectoral* fins yellowish, the rest whitish; *dorsal* spotted with black, the rays simple, those of the second soft; of the other fins the rays are branched; *tail* forked.

Dors. 14, 23: *pect.* 16: *vent.* 6: *an.* 14: *caud.* 17—22 rays.

Volgensis. Green-gold; second dorsal fin with 23 rays.

Inhabits chiefly the *Volga* and neighbouring rivers; is an intermediate species between the river perch and the last.

Body with 6 transverse interrupted black bands; *scales* large and rough; *iris* silvery; 2 larger; *teeth* at the tip of the lower jaw; *dorsal* fins with 5 bands, the rays strong and rigid.

Dors. 13, 23: *pect.* 14: *vent.* 6: *an.* —: *caud.* 15 rays.

- Asper.* Yellowish, with 3—4 transverse black bands; second dorsal fin with 13 rays.
 Inhabits clear waters of southern *Europe*; 6—8 inches long; body above blackish, beneath whitish; feeds on insects and worms; flesh delicious.
Head broad; *iris* white, edged with reddish; *nostrils* double, near the mouth; *mouth* small, placed beneath and semilunar; *teeth* very minute; upper *jaw* much longer; *gill-covers* of one piece? *lateral line* straight; *fins* yellowish; first *dorsal* with simple spinous rays, the rest soft and branched.
Dors. 8, 13: *pect.* 13: *vent.* 6: *an.* 11: *caud.* 18 rays.
- Zingel.* Second dorsal fin with 19 rays; lower jaw much shorter.
 Inhabits rivers of *Germany*; resembles the last, except that it is much larger, the head more pointed, the gape larger, colour less dusky, and the tail longer, truncate, and somewhat rounded.
Dors. 13, 19: *pect.* 14: *vent.* 6: *an.* 13: *caud.* 17 rays.
- * *Labrax.* Second dorsal fin with 14 rays; back dusky, tinged with blue; belly white. *Basse.*
 Inhabits *Europe* and *Egypt*; grows to the weight of 15 pounds; is strong, active and voracious; body shaped like a salmon.
Iris silvery; *mouth* large; *teeth* in the jaws, small; in the roof of the mouth a triangular rough space; when young, the space above the *lateral line* marked with small black spots; *gill-covers* ending in a sharp point; *pectoral* fins brownish; *ventral* reddish-white; *tail* semilunar. This is a very delicate fish.
Dors. 9, 14: *pect.* 19: *vent.* 6: *an.* 11: *caud.* 18 rays.
- Alburnus.* Dorsal fins unarmed; gill-membrane 3-rayed; tail entire.
 Inhabits *Carolina*; body oblong, with numerous oblique brown bands.
Gill-covers suberrate; first ray of the first *dorsal* fin spinous, and very short, the rest rigid.
Dors. 10, 14: *pect.* 22: *vent.* 6: *an.* 11: *caud.* 19 rays.
- Pusilla.* Body oval, compressed, rough.
 Inhabits the *Mediterranean*; $1\frac{1}{2}$ inch long; body reddish-silvery, covered over with very minute prickles.

Head armed with larger prickles; *mouth* pointed; lower jaw a little longer, very rough beneath; *iris* white; *ventral fins* with a strong spine, serrate on the anterior edge.

Dors. 9, 23: *pect.* 14: *vent.* 4: *an.* 3: *caud.* 14 rays.

Lophar. Silvery; ventral fins connected.

Inhabits *Constantinople*; size and shape of a herring; back greenish-brown; is probably not of this genus.

Head with elevated grooves placed longitudinally between the eyes; anterior *gill-covers* serrate only at the sides; rays of the first dorsal fin hardly spinous, the other and *anal* very fleshy at the anterior base; *ventral* connected by means of a ridge upon the belly; *tail* forked, the rays blackish at the tips.

Dors. 7, 27: *pect.* 16: *vent.* 4: *an.* 3: *caud.* 17 rays.

Arabica. Body silvery, with longitudinal black lines; tail with a golden spot, black in the middle.

Inhabits *Arabia*: body oblong lanceolate, truncate, beneath without spots or lines; scales lax, broad, deciduous, denticulate, disposed in about 10 rows; black lines 16—17 each side.

Crown flat; *iris* yellow; between the eyes a ridge, obtuse on the fore-part and forked behind; behind the eyes are 3 elevated bones; *teeth* long, subulate, straight, remote; in each jaw each side 3, the middle one larger, in the middle of the lower jaw are 2 stronger remote ones; *lips* nearly equal; *palate* covered with setaceous teeth; *tongue* flat, smooth; anterior *gill-covers* slightly serrate at the hinder angle and beneath only; *dorsal* fins remote, the first brown, all the rest yellowish-brown; *dorsal*, *ventral* and *anal* triangular, *pectoral* lanced; *tail* bifid, the segments lanceolate.

Dors. 6: *pect.* 15: *vent.* 4: *an.* 3: *caud.* 17 rays.

Nilotica. Dorsal fins hardly distinct; tail entire.

Inhabits the *Nile* and *Caspian* sea.

Dors. 8, 4: *pect.* 14: *vent.* 4: *an.* 3: *caud.* 15 rays.

B. *Dorsal* fin single; tail undivided.

Undulata. Dorsal fins subunited; body brown, waved; a brown spot at the pectoral fins.

Inhabits *Carolina*, and is there called the *Croaker*.

Anterior *gill-covers* with 5 short teeth; *tail* entire.

Dors. 10, 4: *pect.* 18: *vent.* 4: *an.* 3: *caud.* 19 rays.

Ocellata.

Ocellata. Dorsal fins subunited; tail with a black ocellate spot at the base.

Inhabits *Carolina*, is there called the *Basse*.

First ray of the *dorsal* fin very short, the first of the *ventral* shorter and unarmed; spot on the tail encircled with white.

Dors. 10, 1: *pect.* 16: *vent.* 6: *an.* 1: *caud.* 16 rays.

Argus. Silvery-blueish, with numerous ocellate brown spots.

Grows to about the length of a foot; a very beautiful fish.

Spots on the body with white centres, those on the head pectoral and ventral fins smaller, and without the white centres.

Marina. Red, with transverse dusky lines on the sides; gill-covers with a black spot; dorsal spines 15. *Sea P.*

Inhabits *Europe*: about a foot long; flesh good.

Head large, deformed; eyes large; teeth small, numerous; on the head and gill-covers are strong spines.

Dors. 15: *pect.* 19: *vent.* 6: *an.* 1: *caud.* 14 rays.

Scandens. Dorsal fin with 17 spinous and 8 soft rays; scales rough, with a whitish denticulate edge.

Inhabits rivulets in *Tranquebar*; about a palm long; has the very singular habit of crawling up trees, which it effects by means of the spines on the gill-covers, and spinous rays of the other fins. *Linn. Transf.* 3. 62. Body covered with a black slimy mucus, above dusky-green, lighter on the sides, beneath pale golden.

Mouth toothed each side before the lips; front porous, the scales with an entire edge; eyes lateral, flat, pupil large, black, iris shining golden; gill-covers scaled, spinous, the middle spines longer; dorsal and anal fins when folded hid in a longitudinal cavity; pectoral oblong, obtuse; ventral somewhat connected, reddish; tail a little rounded, the rays bifid.

Dors. 17: *pect.* 12: *vent.* 4: *an.* 1: *caud.* 17 rays.

Mobilis. Body silvery, with 8 brown bands.

Inhabits *North America*: spinous rays of the dorsal fin silvery at the sides.

Dors. 17: *pect.* 15: *vent.* 4: *an.* 2: *caud.* 17 rays.

Polymna.

Polymna. Body black, with 3 white bands.
Inhabits *South America* and *India*; the middle band passes through the hind-part of the dorsal fin.
Dors. 16: *pect.* 18: *vent.* 6: *an.* 16: *caud.* 16 rays.

Merra. Body white, with numerous subhexagonal brown spots.
Inhabits *Japan*: about a foot long. *Nat. Miscel.* 382.
Lower jaw longer; posterior gill-cover spiny; tail rounded.

Cottoides. All the fins with 2 dotted lines.
Inhabits *India*.
Dors. 11: *pect.* 14: *vent.* 5: *an.* 3: *caud.* 12 rays.

Philadelphica. Dorsal fin with a black spot in the middle; scales and gill-covers ciliate.
Inhabits *South America*; body spotted and barred with black, beneath red; posterior gill-cover mucronate; 2 first rays of the dorsal fin shorter.
Dors. 11: *pect.* 16: *vent.* 4: *an.* 3: *caud.* 11 rays.

Palpebrofa. Eyelids with a brown spot; lateral line curved.
Inhabits *America*; small.
Dors. 13: *pect.* 15: *vent.* 4: *an.* 11: *caud.* 17 rays.

Atraria. Body black, the fins spotted with white.
Inhabits *Carolina*; anterior gill-cover denticulate, posterior ciliate; lateral line straight; dorsal fin with whitish lines.
D. 33, *p.* 20, *v.* 7, *a.* 26, *c.* 20 rays.

Chrysoptera. Lower fins yellow spotted with brown.
ra. Inhabits *Carolina*.
Gill-covers very finely toothed; lateral line straight.

Mediterranea. All the fins, except the dorsal, tawny; pectoral with a black spot.

Inhabits the *Mediterranean*; body green with dusky lines parallel with the lateral line on the upper part, those on the lower part broader, and fine blue; about a span long; compressed, oblong.

H. A.

Head above naked; with transverse and waved blue lines; *iris* golden, with a circle of blue in the middle; *dorsal* fin filamentous, the hind-part higher.

Dors. $\frac{10}{3}$: *pect.* 13: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 13 rays.

stata. Body with 5 white and brown transverse lines.

2. The lines widened into bands.

Inhabits *America*, 2) *Japan*; 8 inches long.

Dors. $\frac{10}{3}$: *pect.* 18: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 17 rays.

2) *Dors.* $\frac{10}{3}$: *pect.* 16: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 16 rays.

unctu- Body dotted with blue.

ata. Inhabits *America*.

uttata. Body sprinkled with bloody dots.

Inhabits *America*.

trida. Pectoral and caudal fins yellow; head with irregular zigzag marks.

D. $\frac{10}{3}$: *p.* 13: *v.* $\frac{1}{6}$: *a.* $\frac{3}{3}$: *c.* 15 rays.

igas. Body clouded; gill-covers 3-spined; dorsal spines 11.

Inhabits the *Mediterranean*; 3 feet long; body oval, compressed at the sides, whitish-yellow with dusky-brown waves.

Head naked on the fore-part, beneath red; *iris* pale yellow; *mouth* large; *teeth* in the palate and gullet, the 4 upper fore-ones larger and conic; *lips* simple; *tongue* large, smooth; *lateral line* dusky, parallel with the back and gradually curved; *vent* nearer the tail; *dorsal* fin filamentous, the seventh ray shorter; *pectoral* rounded, red on the outside.

Dors. $\frac{10}{3}$: *pect.* 16: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 15 rays.

logaa. Reddish-black; tail equal; fins black; gill-membrane dusky-red.

Inhabits *Arabia*; 3 spans long.

Crown convex, sloping between the eyes; *iris* black without, then yellow and blue within; *lips* broad, very obtuse, the upper shorter and protractile; *teeth* numerous, setaceous, with frequently 2 strong remote fore-teeth; before the *nostrils* a small cirrus; *gill-covers* fat, scaly, the posterior 3-toothed; *shoulders* gibbous; *lateral line* not visible; *fins* obtuse; *dorsal* filamentous; *ventral* rounded.

Dors. $\frac{10}{3}$: *pect.* 18: *vent.* $\frac{1}{6}$: *an.* $\frac{3}{3}$: *caud.* 14 rays.

Lunatic.

Lunaria. Rusty-black; pectoral fins black, behind yellow; dorsal and caudal behind pale hyaline.

Inhabits *Arabia*; resembles the last.

Ventral fins obversely triangular, black, and like the anal and dorsal with a dusky-red stripe towards the outer edge, the latter white at the posterior edge; tail with a hyaline lower and behind this reddish.

Dors. 2: *pect.* 18: *vent.* 1: *an.* 3: *caud.* 14 rays.

Taurina. Body oblong-linear, brown with rusty-black dots; tail rounded.

Inhabits *Arabia*; scales small, denticulate.

Head wedged, sloping from the crown; teeth small, rather subequal, rigid, with a canine tooth in each jaw, each side of the gullet and base of the tongue covered with teeth; lips obtuse, the upper shorter, retuse; anterior gill-cover denticulate behind, posterior 3-spined; lateral line parallel with and near the back; fins rusty-black with darker spots, the hinder edge whitish; pectoral and ventral nearly equal.

Dors. 16: *pect.* 17: *vent.* 1: *an.* 2: *caud.* 17 rays.

Rafinata. Red, with broad whitish transverse bands.

Inhabits the *Red Sea*; above a yard long; scales small.

Head large; eyes large, approximate, separated by 2 longitudinal furrows; iris greenish-rufous; lips rounded, obtuse, equal; teeth setaceous, many rows in the upper jaw, but one in the lower; anterior gill-cover slightly toothed behind, posterior pointed, spinous; pectoral fins on short pedicels, nearly connected by a membrane; lateral line near the back.

Dors. 11: *pect.* 7: *vent.* 1: *an.* 3: *caud.* 17 rays.

Miniata. Scarlet, covered with blue dots; tail rounded.

2. Brown, with ocellate blue spots.

3. Red, with blue dots.

Inhabits *Arabia*; feeds on fish; scales small, round, striate; flesh good.

Crown marked with the letter V before the eyes; iris red without, yellow within; nostrils round, simple, with a small cirrus; lips very broad, obtuse, sprinkled with blue dots, the upper shorter, protractile; teeth setaceous, with 2 strong canine ones in each jaw; gill-covers slightly serrate behind; fins all rounded behind, the ventral only pointed, the anterior edge blue.

Dors. 2: *pect.* 17: *vent.* 1: *an.* 3: *caud.* 15 rays.

Symptetrus

Summana. Tail rounded; body ashy-brown, covered with white specks.

2. Body blueish, with brown dots.

3. Whitish-ash, with yellowish-brown dots.

Inhabits *Arabia*; very much resembles the last.

Head brown, a little dotted; beneath the eyes each side an oblong black spot; iris brown; fins brown, speckled with white; tail short, with a black spot above.

Dors. $\frac{11}{2}$: p. 17: v. $\frac{1}{2}$: a. $\frac{3}{2}$: c. 15 rays.

2) Dors. $\frac{7}{2}$: pect. 18: vent. $\frac{1}{2}$: an. —: caud. 18 rays.

3) Dors. $\frac{11}{2}$: p. 18: v. $\frac{1}{2}$: a. —: c. 15 rays.

Sinenfis. Yellowish; tail oval; lower jaw shorter.

Inhabits *China*: resembles the river P., but smaller.

Mouth oblong, rounded; lateral line curved; tongue, palate and fins yellowish; dorsal reaching from the head to the tail, narrower in the middle.

Dors. $\frac{10}{3}$: pect. 18: vent. 6: an. $\frac{10}{3}$: caud. 17 rays.

C. Dorsal fin single; tail forked.

Ascensionis. Above reddish, beneath whitish.

Inhabits *Ascension Isle*; body narrow, covered with oblong-round scales, denticulate on the fore-part.

Gill-covers serrate, of 2 pieces, 2 of the teeth larger than the rest.

Dors. $\frac{11}{2}$: pect. 16: vent. 8: an. 14: caud. 26 rays.

Louti. Oblong-lanceolate, carmine with pale violet dots; hind-edge of all the fins yellow.

Inhabits *Arabia*; about a yard long; body beneath pale without spots; scales small, striate, rounded, entire.

Crown naked, convex; iris carmine; nostrils simple, with a conic cirrus before them; lips obtuse, the upper shorter, protractile; teeth setaceous, flexible, remote, conic, some of them stronger; gill-covers fat, scaly, the anterior very entire, posterior 3-spined behind; lateral line nearer the back, and not parallel; pectoral and ventral fins without spots, the former oval, the latter with a falcate angle; tail linear.

Dors. $\frac{9}{2}$: pect. 17: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 15 rays.

Ventrosa. Pectoral fins tipped with yellow; tail lunate; body with blood-red dots.

Inhabits *America*; is suspected of being poisonous.

Melanura. Tail black, edged with white; body with yellow lines.
Inhabits *America*.

Seclatrix. Tail forked, red on the hind-part; belly pale yellow,
with grey lines.
Inhabits *America*.

Stigma. Dorsal fin filamentous; gill-covers branded.
Inhabits *India*.
Dors. $\frac{16}{7}$: pect. 13: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

Diagramma. Body white, with longitudinal brown stripes; dorsal
spines 11.
Inhabits *India*, in fresh waters; grows to 10 inches long, and
preys on smaller fishes.
Crown sloping; shoulders convex; dorsal fin with large
blotches of deep brown; tail with an oblique brown band
on each lobe and another down the middle.
Dors. $\frac{16}{7}$: pect. 13: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 18 rays.

Striata. Body striate.
Inhabits *North America*; differs from *P. melanura* chiefly in not
having the tail black.
Gill-covers subserrate; second ray of the anal fin very strong.
Dors. $\frac{13}{8}$: pect. 15: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

Lineata. Dorsal fin filamentous; body with 5 alternate white and
brown lines.
Dors. $\frac{17}{24}$: pect. 15: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

**Cernua*. Dorsal fin 27-rayed, spines 15. *Ruffe*.
Inhabits clear streams of *Europe*; 6—8 inches long; body
round, mucous, sides yellowish dirty-green, spotted with
black, breast white, nape and back blackish; feeds on lesser
fishes, and is the prey of larger and various aquatic birds;
is exceedingly fertile, and spawns in March or April; flesh
good.
Head thick, compressed; eyes large, pupil blue, iris brown
with a yellow mark; jaws equal; teeth very minute and
sharp; fins yellowish; pectoral, dorsal and caudal spotted
with black.
Dors. $\frac{15}{7}$: pect. 14: vent. $\frac{1}{2}$: an. $\frac{3}{2}$: caud. 17 rays.

**Nigra*.

- Nigra.** Body narrow, with small thin scales. *Black Fish.*
 Inhabits *Cornwall*: a very indistinct species.
 Length 15 inches; teeth small; nostrils large, double.
- Acerina.** Dorsal fin with 31 rays, spines 17.
 Inhabits the *Euxine* sea, and the rivers running into it; resembles in its figure, colour and habits *P. cernua*; head longer.
 Dors. 31, pect. 25, vent. 6, an. 2, caud. 17 rays.
- Schrætzfer.** Body with longitudinal black lines each side.
 Inhabits southern *Europe*; head aculeate.
 Dors. 18: pect. 16: vent. 4: an. 2: caud. 18 rays.
- Argentea.** Nostrils tubular; a black spot on the spinous part of the dorsal fin.
 Inhabits *America*.
 Dors. 22: pect. 12: vent. 6: an. 3: caud. 17 rays.
- Cabrilla.** Body with 4 longitudinal blood-red stripes.
 2. Varied with yellow and violet blotches.
 Inhabits the *Mediterranean*.
 Dors. 24: pect. 16: vent. 4: an. 3: caud. 17 rays.
- Radula.** Body with white dots disposed in lines.
 Inhabits *India*: scales crenulate.
 Dors. 22: pect. 12: vent. 6: an. 1: caud. 17 rays.
- Formosa.** Tail lunate; head marked with blue lines and blotches. *Squirrel Fish.*
 Inhabits *Carolina*; gill-covers toothed; anterior part of the dorsal fin abbreviate towards the hind-part.
 Dors. 23, pect. 16, vent. 4, an. 2, caud. 19 rays.
- Sacer.** Body rose-coloured; second ray of the dorsal fin very long.
 Inhabits the *Mediterranean*; a foot long. *Nat. Miscel.* 371.
 Posterior gill-cover ending in a spine; tail lunate.
- Lunulata.** Reddish; tail with a black lunule at the base.
 Inhabits *Sumatra*. *Linn. Transf.* iii. 35.
 Crown convex, naked; jaws equal; teeth conic, a little curved, the canine ones in the upper jaw stronger; ventral fins golden, the rest reddish.
 Dors. 24, pect. 16, vent. 7, an. 3, caud. 17 rays.

Aurata. Whitish, with a longitudinal yellow stripe.

Inhabits *Samatra*. *Linn. Transf.* iii. 35.

Eyes large, iris yellow; under the eye a single reflected spine; anterior gill-covers toothed behind, the posterior nearly entire; lateral line nearer the back, a little curved on the hind-part; pectoral fins pale yellow; tail yellow, the rest whitish-brown.

Dors. 12: pect. 18: vent. 6: an. 3: caud. 18 rays.

Sumatrensis. Body dark silvery; fins longitudinally striate.

Inhabits in shoals the coasts of *Sumatra*; 3 inches long; scales small, denticulate, dotted with brown. *Linn. Transf.* 3. 36.

Head small, wedged, the nose and front brown; iris brown-silvery; mouth small; lower jaw a little longer; lateral line parallel with the back, a little bent down at the end of the dorsal fin; pectoral and ventral fins yellow, the rest brown, streaked with yellow.

D. 12: p. 14: v. 6: a. 3: c. 18 rays.

Trifurca. Tail trifid; body with 7 blue bands.

Inhabits *Carolina*; very finely variegated.

Gullet yellow; gill-covers very finely toothed; the third and fourth spinous rays of the dorsal fin with a filament as long as the spine itself.

Dors. 12, pect. 16, vent. 6, an. 3, caud. 20 rays.

33. **TRACHICHTHYS.** Head rounded in front; eyes large; mouth wide, toothless, descending: gill-membrane with 8 rays, the 4 lowermost of which are rough on the edges: scales rough: abdomen cataphracted with large carinate scales.

Australis. Tr. *Naturalist's Miscell.* No. 106, plate 378.

Inhabits *New Holland*; about 5 inches long, and 2 deep; body coated with scales so strongly and closely inserted that it is not possible to detach one from the rest without bringing with it a portion of the skin.

Eyes

Eyes extremely large, iris silvery; *gill-covers* armed on the upper part with a strong rough spine, and a small one on the lower; *scales* fringed and covered with small spines, those on the abdomen projecting into a shortish spine, pointing backwards and forming a sharp keel; *tail* strongly forked; edges of all the *fins* paler; 3 first rays of all the fins, except the *pectoral*, strong, rough, and finely serrate outwards.

Dors. 14, *pect.* 13, *vent.* 7, *an.* 12, *caud.* 24 rays.

34. **GASTEROSTEUS.** *Head* oblong, smooth: *jaws* armed with minute teeth: *tongue* short, obtuse: *palate* smooth: *eyes* moderate, hardly prominent, lateral: *gill-membrane* with 3, 6 or 7 rays: *gill-cover* of 2 pieces, rounded, striate: *body* carinate each side, and covered with bony plates: *dorsal* fin single, with distinct spines between it and the head: *lateral line* straight: *ventral* fins behind the *pectoral*, but above the sternum.

Stickle-back.

Aculeatus Dorsal spines 3.

Three-spined St.

Inhabits fresh waters of *Europe*; about 3 inches long; is very short lived, hardly ever reaching to the third year; spawns in April and June; is infested with intestinal worms; feeds on the fry and spawn of fish, worms and insects; appears sometimes in vast shoals, and is chiefly used for manure or to fatten ducks and pigs.

Body silvery at the sides; *head* compressed, sloping on the fore-part; *eyes* prominent, iris silvery; *body* near the tail square; *gill-covers* large, silvery; *chin* and *breast* sometimes fine red; *lateral line* rough, nearer the back; fins yellowish; *ventral* consists of one spine or rather plate, of unequal lengths, one being large, the other small, with a flat bony plate between both; beneath the *vent* a short spine.

Dors. 12: *pect.* 10: *vent.* 1: *an.* 1; *caud.* 12 rays.

Duffor.

DuRoi. Dorsal spines 4; gill-membrane 7-rayed. *Pilot Fish.*
Inhabits the *Ocean*; is the constant attendant on the shark, and always precedes it.
Dors. 27: *p.* 18: *v.* 6: *a.* 16: *c.* 19 rays.

Japonicus Dorsal spines 4; gill-membrane 5-rayed.
Inhabits *Japan*; body yellow, 5 inches long; scales large, rhombic, ending in spines turned back, the fore-part clear with spines, the edge brown.
Head obtuse; *jaws* rough, without teeth; *gill-covers* not scaled, toothed behind; *dorsal* spines moveable, thick, strong, unequal, placed in a cavity; *ventral* fins connected by a short rigid spine an inch and a half long.
Dors. 10: *pect.* 12: *vent.* —: *an.* 9: *caud.* 22 rays.

Occidentalis. Dorsal spines 7, and 2 before the anal fin.
Inhabits *America*: silvery, tail longitudinally striate,
Dors. 11, *pect.* 11, *vent.* 6, *an.* 7, *caud.* 16 rays.

Lyfan, Dorsal spines 7, anal 2; gill-membrane 8-rayed.
Inhabits *Arabia*; body blueish-brown, beneath white, oblong lanceolate; scales minute lanceolate.
Lateral line undulate on the fore-part.
Dors. 11: *pect.* 17: *vent.* 6: *an.* 9: *caud.* — rays.

Ovatus. Dorsal spines 7, the first recumbent; anal 2.
Inhabits *Asia*: body compressed. In shape it resembles a *Cetodon*, in wanting the plate on the thorax a *Labrus*, and in its recumbent dorsal spine a *Scomber*.
Jaws and *lips* rough; *dorsal* spines directed alternately to the sides, the first very small, the next a little longer.
Dors. 20: *pect.* 16: *vent.* 6: *an.* 3: *caud.* 20 rays.

Carolinus. Dorsal spines 8, anal 3.
Inhabits *Carolina*; body oblong oval.
Lateral line subcarinate at the the tail; *dorsal* and *anal* fins falcate; *tail* nearly 2-lobed.

Canadus. Dorsal spines 8, anal 0; gill-membrane 7-rayed.
Inhabits *Carolina*: body oblong.
Spines resembling a first dorsal fin 7—8, the posterior and anal falcate; *tail* nearly 2-lobed.

Saltator

atris. Dorsal spines 8, connected by a membrane; gill-membrane with 7 rays. *Skip-jack*.

Inhabits *Carolina*; is less spinous than others of its tribe, and resembles a perch.

Lower jaw with a single row of teeth, the upper with 2; dorsal spines weak, placed in a cavity, with a very fine membrane between them; tail forked.

Dors. 26: pect. 16: vent. 1: an. 27: caud. 21 rays.

igitius Dorsal spines 10. *Ten-spined St.*

Inhabits *Europe* in shoals, enters the mouths of rivers in spring; $1\frac{1}{2}$ inch long; body olive, beneath silvery; sides not plated like the others; spines not inclining the same way.

Dors. 11: pect. 10: vent. 1: an. 11: caud. 13 rays.

nachia Dorsal spines 15. *Fifteen-spined St.*

Inhabits *European* seas, and is never found in rivers; 6—7 inches long; body long, above brown or olive, beneath silvery; is said to follow a light; feeds on worms, insects and the young fry and spawn of fishes; is seldom eaten, but used chiefly for manure or lamp oil.

Head tubular; iris silvery; lower jaw longer; teeth sharp; gill-covers radiate; trunk 5-sided; lateral line elevated, sharp, consisting of brown plates; tail depressed, with an elevated line above and beneath; dorsal spines bent back, placed in a cavity; pectoral oblong; tail rounded.

Dors. 7: pect. 10: vent. 2: an. 6—7: caud. 12 rays.

rella. Spines on the hind-part of the head 4, somewhat serrate, the lateral ones as long as the belly.

Inhabits *India*.

Dors. 16, pect. 20, vent. 4, an. 8, caud. — rays.

thias. Four small spines before the dorsal fin; gill-membrane 3-rayed.

Inhabits the seas of *Denmark*.

35. SCOMBER. *Head* compressed, smooth; *gill-membrane* with 7 rays: *body* smooth: *lateral line* carinate behind: between the dorsal fin and tail are frequently several *spurious fins*.

Mackerel.

A. Spurious fins distinct.

• *Scomber.* Spurious fins 5.

Common M.

Inhabits the *European, American, Atlantic* and *Mediterranean* seas; 1—2 feet long; body above the lateral line dark green, varied with blue and crossed with black lines, beneath silvery; when just taken out of the water emits a phosphorescent light, and soon dies; is gregarious and visits the shores usually in vast shoals; the celebrated *garum* of the Romans was prepared from this fish.

Head long; *eyes* large, covered with a white film in the autumn, during which time they are half blind, which is cast off in the summer; *mouth* large; *tongue* loose, pointed, *frontal teeth* in both jaws and round the edge of the palate; *lower jaw* longer; *nape* broad, black; *aperture of the gills* large; the cover silvery, of 3 pieces; *body* compressed, round and nearly quadrangular towards the tail; *lateral line* round and parallel with the back, with oblong spots beneath, and nearer the tail; *fins* small, cinereous; *tail* forked.

Dors. 12, 12, *pect.* 20, *vent.* 6, *an.* 13, *caud.* 20 rays.

Colias.

Body varied with fine green and blue.

Inhabits *Sardinia*: is probably the younger fish of the *M.* which it very much resembles.

Japonicus

Blueish; spurious fins 5.

Inhabits *Japan*: shaped like a herring; 8 inches long; *body* very small; each jaw ciliate with teeth; head silvery; perhaps a mere variety of *S. scomber*.

Dors. 8, 8, *pect.* 18, *vent.* 6, *an.* 11, *caud.* 20 rays.

Auratus

- Auratus.* Fine gold-colour ; spurious fins 5.
Inhabits *Japan* ; very nearly allied to *S. scomber*.
Dors. 9 : *pect.* 18 : *vent.* 6 : *an.* 6 : *caud.* — rays.
- Alatunga.* Pectoral fins very small ; spurious fins 7.
Inhabits the *Mediterranean* ; is periodical and migratory.
- Pelamis.* Spurious fins 7 ; body with 4 black lines each side.
Inhabits between the *Tropics* and the *Atlantic*.
Dors. 15, 10 : *pect.* 27 : *vent.* 6 : *an.* 14 : *caud.* 26 rays.
- Thynnus.* Spurious fins 8—11. *Thunni.*
Inhabits most seas, and is from 2 to 10 feet long ; body spindle-shaped, silvery, above steel-blue and a little convex ; is extremely voracious, and swims with great swiftness ; spawns in May or June, and periodically frequents the shores of the *Mediterranean* sea in vast shoals, swimming in a regular parallelogram, and making a prodigious hissing noise ; the flesh is good, though sometimes accounted poisonous, which may be occasioned by its feeding on noxious molluscæ.
Head small, obtuse on the fore-part ; eyes large, iris silvery, on the outside golden ; teeth small, sharp ; lower jaw longer ; tongue short, smooth ; gill-cover of 2 pieces ; scales small, thin, deciduous ; first dorsal fin spinous, and when depressed concealed in a cavity on the back, the second falcate ; pectoral long, and with the spurious, anal and second dorsal fins yellowish ; ventral short, and with the first dorsal and lunate caudal cinereous.
Dors. 14, 12 : *pect.* 32 : *vent.* 6 : *an.* 13 : *caud.* 30 rays.
- ardyla.* Spurious fins 10 ; lateral line mailed with bony plates.
Inhabits *America* : body compressed, broad.
Dors. 7, 9, *pect.* 15, *vent.* 6, *an.* 2, 14, *caud.* 20 rays.
- aloo gut-* A single 2-rayed spurious fin before the anal.
teus. Inhabits *Arabia* ; body shining pale blue with golden spots at the sides.
Crown hollow before the eyes ; iris golden ; from the head to the dorsal fin is a polished, naked, glaucous membrane ; lateral line arched at the beginning ; first dorsal fin when folded hid in a cavity ; ventral approximate ; tail very widely arched in an obtuse angle.
Dors. 1, 2, 3, *pect.* 11, *vent.* 2, *an.* 2, 11, *caud.* 19 rays.

B. Spurious fins 0.

Glaucus. Dorsal spines recumbent.

Inhabits *Ascension Island*.

Dors. 7, 25, pect. 20, vent. 5, an. 25, caud. 20 rays.

Speciosus. Pale golden; bands on the crown oblique; on the body 7 black alternate bands.

Inhabits *Arabia*: body oval lanceolate, without teeth, above brown, beneath pale; scales small, entire, deciduous.

Crown convex, naked, smooth; iris silvery, golden on the front part; lips equal, obtuse, the upper protractile; gill-covers of 3 pieces, the anterior scaled, posterior naked; lateral line nearer the back, arched at the beginning and straight from the fifth band; fins yellow; dorsal glaucous; pectoral falcate, 3 times as long as the ventral; tail bifid.

Dors. 6, 15, pect. 21, vent 5+6, an. 17, caud. — rays.

Ferdau. Oblong-oval, silvery, with golden dots on the sides; body with 5 obsolete transverse brown bands.

2. Pectoral fins hyaline.

Inhabits *Arabia*: body above blueish; scales small, deciduous.

Crown naked, smooth, with a bony line in the middle; snout white; before the nostrils a small conic cirrus; upper lip protractile; teeth numerous, setaceous; lateral line nearly straight; gill-covers entire, scaly; between the dorsal fins a single short spine, and 2 others before the anal, the former and posterior dorsal fin surrounded with an erect membrane; ventral short, pointed; pectoral whitish, falcate; tail cut off in a right angle, glaucous, the lobes lanceolate.

Dors. 6, 15, 19, pect. 21, vent. 11, an. 11, 11, caud. 16? rays.

Ignobilis. Silvery, back blueish; pectoral and ventral fins reddish.

Inhabits *Arabia*: scales small, deciduous; before the anal fin 2 spines, connected into a spurious fin, the posterior spine twice as large as the first.

Each jaw with a row of short, subulate teeth; lateral line undulate, but straight, and mailed from the anal fin; dorsal fins glaucous, the first triangular; anal hyaline, the deeper part yellow beneath; upper lobe of the tail glaucous, lower yellow.

Dors. 7, 11, 15, pect. 11, vent. 11, an. 11, 11, caud. 18 rays.

Sansum. Shining silvery, without spots; tail with an elevated equal ridge.

Inhabits *Arabia*; resembles *S. fulvo guttatus*.

Crown with branched veins; each jaw with a row of teeth, the upper with numerous setaceous ones behind them; ventral and pectoral fins white, the rest brown; dorsal black on the upper edge; anal and caudal yellow on the lower edge.

Dors. 7, 1, 2, pect. 2, vent. 6, an. 2, 1, caud. 18? rays.

Albus. White; sides and tail yellow.

Inhabits the *Red Sea*: body lanceolate, covered with fixed scales; before the anal fin are 2 spines connected into a small fin, the hinder spine twice as long.

Each jaw with a row of small subulate teeth; lateral line arched at the beginning, straight, and mailed from the posterior dorsal fin; tail not carinate; first dorsal fin triangular, æquilateral.

Dors. 8, 1, pect. 22, vent. 5, an. 2, 1, caud. 17 rays.

Falcatus. Body rhomboidal; second dorsal and anal fins falcate.

Inhabits the *Red Sea*; body half as long again as it is broad, smooth, silvery, above browner; scales thin, fixed, elevated at the tip; under the skin in the middle of the back are a few spines reaching to the dorsal fin, and before them a strong horizontal spine turned forwards and sometimes hid under the skin, and before the anal fin are 2 spines.

Front perpendicular, yellowish; lips obtuse, equal, the upper protractile; jaws without teeth, the upper smooth, the lower rough; gill-covers naked, entire; lateral line a little undulate; pectoral fins oval, obtuse, brown; ventral longer, obliquely truncate behind, tawny on the outside, whitish within; tail bifid, glaucous, brown on the fore-part, the posterior edge yellow.

Filamentosus. Breast naked; second dorsal and anal fins filamentous.

Inhabits *Sumatra*: body silvery, above blueish; scales small, fixed. *Linn. Transf.* iii. 36.

Head obtuse on the fore-part; eyes large, iris yellow; jaws armed with small crowded teeth; gill-cover of 3 pieces, entire, naked; before the anal fin are 2 spines, the posterior larger; fins yellowish; the first dorsal hid in a cavity; pectoral falcate; tail bifid.

Dors. 6, 22, pect. 19, vent. 5, an. 2, 18, caud. 22 rays.

C. *Spurious fins connected.*

• *Trachurus*. Dorsal spine recumbent; lateral line prickly.

Scad. Horse M.

Inhabits *European, American and Pacific* seas; from a span to 2 feet long; body silvery; front and back mixed green and blue; long, compressed, covered with thin, round, soft scales; flesh eatable but tough.

Head large, sloping; teeth sharp; lower jaw longer; a little curved back; palate rough; tongue smooth, broad, thin; eyes large, iris reddish-silvery; gill-cover of 2 pieces, the upper with a black spot; back slightly arched and carinate; lateral line bending down at the end of the pectoral fins and afterwards straight, and covered with about 68 imbricate plates, serrate with recurved prickles; fins white; the first rays of the first dorsal black; tail lunate.

Dors. 8, 34: pect. 20: vent. 6: an. $\frac{1}{2}$: caud. 20 rays.

Hippos. Gill-covers with a black spot on the hind-part; posterior dorsal fin red; ventral and anal yellow.

Inhabits *Carolina and Otaheite*.

Teeth in one row, the 2 fore-ones larger; lateral line very much sloping down in the middle, the hind-part carinate and sub-spinous; spines before the anal fin remote.

Dors. 7, 22: pect. 22: vent. 6: an. $\frac{2}{3}$: caud. 30 rays.

Chrysurus. Spurious fins pale yellow; mouth without teeth.

Yellow-tail.

Inhabits *Carolina*; spines before the anal fin remote.

Dors. 9, 26: pect. 19: vent. 6: an. $\frac{1}{3}$: caud. 22 rays.

Amia. Last ray of the posterior dorsal fin longer.

Dors. 5, 34: pect. 20: vent. 6: an. 24: caud. — rays.

Pelagicus. Spurious fins and dorsal connected into one.

Dors. 40: pect. 19: vent. 5: an. 22: caud. 20 rays.

36. CENTROGASTER.

36. CENTROGASTER. *Head* compressed, smooth; *gill-membrane* mostly 7-rayed: *body* depressed, smooth: *fins* spinous; *ventral* connected by a membrane, with 4 sharp spines and 6 soft rays.

tescens. Brown, beneath whitish; tail slightly forked.

Inhabits *Japan*: about 5 inches long.

Upper *jaw* with sharp teeth; *dorsal* fin running down the whole back.

Dors. 9, 11: *pect.* 16: *vent.* 4: *an.* 3: *caud.* 20 rays.

intatus Silvery; nape with a large brown spot, and a blackish one on the dorsal fin.

Inhabits *Japan*: $3\frac{1}{2}$ inches long; tail forked.

Dors. 9: *pect.* —: *vent.* 3: *an.* 4: *caud.* — rays.

ula. Spurious fins and dorsal fin connected.

2. Fins glaucous, edged with yellow.

Inhabits the *Red Sea*: 5 inches long; body oval, compressed, silvery, smooth, coated with very minute scales.

Front with 2 bony ridges, converging forwards, and above the angle of the eye 2 retroverted spines; *iris* silvery; *teeth* setaceous; upper *lip* retractile, lower curved; anterior *gill-covers* serrate beneath; *lateral line* nearer the back, first straight, then rising, and descending towards the tail; *ventral* fins with a lanceolate membrane on the upper side, with a hollow, linear, bony callus before them, and before this callus a sharp bony protuberance; *dorsal* and *anal* reaching to the tail; *tail* 2-lobed.

Dors. 2: *pect.* 18: *vent.* 1: *an.* 3: *caud.* 17 rays.

nbeus. Ventral fins each of one spinous ray.

Inhabits the *Red Sea*; body silvery; scales small.

Iris

Iris silvery, above and beneath brown; *teeth* numerous, exceedingly small; *tongue* obtuse, with a whitish rough excrescence above near the tip; before the *dorsal* fin are 5 small spines, scarcely connected; *dorsal* fin scaly, white tip with black; *anal* scaly, triangular on the fore-part; *pectoral* slightly rounded; near the *ventral* fins are 2 small spines, and behind each 5 soft rays, hardly visible; *tail* short, compressed, not carinate, glaucous, nearly rounded; *lateral line* nearer and parallel with the back.

Dors. 4, 3: *pect.* 13: *vent.* 1: *an.* 3: *caud.* 16 rays.

37. MULLUS. *Head* compressed, sloping, scaly: *eyes* oblong, approximate, vertical, furnished with a nictitant membrane: *nostrils* double, minute: *jaws* and *palate* armed with small teeth: *tongue* short, narrow, smooth, fixed: *gill-membrane* 3-rayed: the covers of 3 pieces, very finely striate: *body* round, long, red, coated with large scales, easily dropping off. *Surmullet*

• *Barbatus* Lower jaw with 2 cirri; body red. *Red*

Inhabits *European*, *Mediterranean* and *Pacific* seas; body when deprived of its scales red. Nothing can be more beautiful than the colours of this fish when it is dying, and nothing more delicious than its flesh; the Romans held it in the vast repute that prodigious sums were given for them: they were often bought at their weight in pure silver.

D. 7, 9, *p.* 15, *v.* 6, *a.* 7, *c.* 16 rays.

• *Surmuletus*. Cirri 2; body with 4 longitudinal yellow lines. *Striped*

Inhabits *European*, *American* and *Mediterranean* seas; from span to a foot long; scales silvery streaked with brown; feeds on other fishes, testaceous animals, crabs and carideans; is gregarious, and approaches the shore in the spring, for the purpose of spawning; its flesh is equally delicious with the last.

Head large ; *eyes* round, pupil blue, surrounded with a red ring, iris silvery ; *upper jaw* longer ; *gill-membrane* narrow, the lower piece of the *cover* narrow and long, the upper ending in a soft blunt elongation ; *lateral line* parallel with the back, bending down towards the tail ; *fins* yellow, the rays chiefly red.

Dors. 7, 9 : *pect.* 15 : *vent.* 6 : *an.* 7 : *caud.* 22 rays.

Japonicus Yellow without stripes ; tail forked ; cirri 2.

Inhabits *Japan* : about 6 inches long ; is hardly to be distinguished from *M. barbatus*.

Jaws without teeth, *Dors.* 7, 9.

luristam- Cirri 2, white ; each side a tawny stripe ; tail yellow.
ma.

Inhabits the *Red Sea* ; scales membranaceous at the edge.

Head spotted with yellow at the sides ; *teeth* small, numerous ; *stripe* each side the body longitudinal, broad, with 2 obsolete yellow ones beneath the tail ; *lateral line* a little branched, nearer the back ; *dorsal* and *caudal* fins yellow, the rest whitish ; *tail* with a small black spot.

Dors. 7, 13 : *pect.* 17 : *vent.* 6 : *an.* 9 : *caud.* 15 rays.

attatus. Cirri 2 ; body with 2 brown and 3 yellow stripes each side ; tail obliquely brown.

Inhabits the *Red Sea* ; body lanceolate, white ; scales finely toothed, with obsolete elevated rivulets.

Jaws crowded with teeth at the edges ; *cirri* as long as the gill-covers ; *lateral line* nearly straight, nearer the back and slightly branched ; *dorsal* and *caudal* fins white, with black lines, the rest whitish.

Dors. 7, 13 rays.

imberbis. Lower jaw without cirri.

Inhabits *Malta*.

Dors. 6, 10 : *pect.* 12 : *vent.* 6 : *an.* 12 : *caud.* 20 rays.

38. TRIGLA. *Head* large, mailed, with rough lines: *eyes* large, round, vertical: *mouth* large: *palate* and *jaws* armed with sharp teeth: *nostrils* double: *gill-cover* of a single, radiate, spinous piece; the *membrane* 7-rayed: *body* wedged, coated with small scales: *back* straight, with a longitudinal spinous groove each side: *lateral line* straight, nearer the back: *belly* thick: *ventral* and *pectoral* fins large, the latter with articulate appendages situated before them. Gurnard.

Cataphractus. Appendages 2; snout long, forked; body mailed. Inhabits the *Mediterranean* sea; body octangular, pale whitish brown; 6 inches long. *Mouth* without teeth; lower lip with numerous cirri; *lower* widely forked, the divisions obtuse; *ventral* and *pectoral* fins connected; *tail* slightly 2-lobed. *Dors.* 27: *pect.* 11: *vent.* 6: *an.* 20: *caud* 10 rays.

**Lyra.* Appendages 3; nostrils tubular. Piper.
Inhabits the *British* coasts; near 2 feet long. *Snout* divided into 2 broad plates, each terminated with 3 spines; on the inner corner of each eye a strong spine, the bony plates of the head, terminating each side with another; *gill-cover* armed with a sharp strong spine; over the *pectoral* fin a large sharp spine; lower *jaw* much shorter than the upper; *back* serrate, with sharp strong spines, pointing towards the tail; *tail* lunate. *Dors.* 10, 18: *pect.* 12: *vent.* 1: *an.* 12: *caud.* — rays.

**Gurnardus.* Appendages 3; back with black and red spots. Gray G.
Inhabits *European* seas; 1½—3 feet long; body above greenish beneath reddish, covered with small white scales; feeds on crabs and testaceous animals; flesh very good. Hist.

Head large; *iris* silvery; *cheeks* with silvery rays; *gill-covers* ending in a point; *lateral line* rough, with large, thick, prickly, black scales, edged with white; *vent* nearer the head; *rays* of the fins longer than the membrane; *pectoral* and *caudal* blackish; *ventral* white; *anal* and *dorsal* reddish-ash; the first *dorsal* spotted with white.

Dors. 7, 19: *pect.* 10: *vent.* 6: *an.* 17: *caud.* 9 rays.

Cuculus. Appendages 3; lateral line unarmed. *Red G.*

Inhabits *European* seas; a foot long; body slender, red, dotted with black; beneath silvery; is very voracious.

Nose armed on each side with 2 sharp spines; *lateral line* with strong, broad, silvery scales, edged with black; *pectoral* and *caudal* fins reddish, the former edged with purple; *ventral* and *anal* white; *dorsal* white spotted with orange; *tail* slightly forked.

Dors. 9, 16: *pect.* 10: *vent.* 6: *an.* 16: *caud.* 13 rays.

Eucerna. Appendages 3; snout a little cleft; lateral line bifid at the tail.

Inhabits the *Northern* ocean.

Dors. 10, 17: *pect.* 10: *vent.* 6: *an.* 15: *caud.* — rays.

Hirundo. Appendages 3; lateral line prickly; pectoral fins pale green, edged and spotted with rich blue.

Tub-fish. Sapphire G.

Inhabits the *Northern* seas; about 2 or 3 pounds weight; body above greenish-brown, the sides tinged with red, beneath silvery; feeds on small fish and crabs, and swims swiftly.

Pupil green, *iris* reddish-silvery; on the inner corner of each eye are 2 spines; *rays* of the pectoral and ventral fins branched; *tail* brownish, nearly even, the rays branched; the rest white, the rays simple.

Dors. 7, 19: *pect.* 9: *vent.* 6: *an.* 18: *caud.* 11 rays.

Lineata. Body red, streaked, beneath white. *Streaked G.*

Inhabits the coast of *Cornwall*.

Head large, with stellate marks; *gill-covers* thorny; *mouth* small, without teeth; *eyes* large; *pectoral* fins spotted.

Asiatica. Appendages 4.

Inhabits the *Ocean*: smooth, roundish, silvery.

Snout prominent, smooth; *mouth* rough within; anterior *gill-cover* serrate; *pectoral* fins falcate.

Dors. 1, 16: *pect.* 18: *vent* 6: *an.* 17: *caud.* 18 rays.

Evulans. Appendages 3; between the dorsal fins 3 serrate spines.

Inhabits *Carolina*.

Snout notched; *pectoral* fins black, half as long as the body; the first and second spines of the first *dorsal* fin, and the first of the second rough on the anterior side; *tail* bifid.

Dors. 8, 11: *pect.* 13: *vent.* 6: *an.* 11: *caud.* 13 rays.

Volitans. Appendages 20, webbed by an intervening membrane.

Inhabits the *Mediterranean* and *Asiatic* seas, and between the *Tropics*; when driven by other fishes flies in every direction out of the water.

Dors. 5, 8: *pect.* 28: *vent.* 5: *an.* 6: *caud.* 18 rays.

Alata. Appendages 11, connected by a membrane.

Inhabits *Japan*; 4 inches long.

Head angular; lower *jaw* and hinder-edge of the *gill-covers* with 2 long sharp spines.

D. 7, —: *p.* —: *v.* 6: *a.* 14: *c.* 14 rays.

Adriatica. Body verticillate with scales; lateral line prickly; pectoral fins beneath black; appendages 3.

Inhabits the *Adriatic*; a span long; body red, with black spots and bands, beneath whitish.

Head radiate, with small spines above the eyes; *snout* retuse, slightly 2-lobed and not spinous; *jaws* toothed, the lower a little shorter; *dorsal* fins waved with pale red; *pectoral* elongated beyond the vent, somewhat truncate, above fasciate with brown, beneath edged and spotted with blue; *ventral* and *anal* white, sometimes tipped with black.

Dors. 15, 16: *pect.* 10, 3: *vent.* 4: *an.* 16: *caud.* 12 rays.

Minuta. Appendages 3; back bicarinate.

Inhabits *India*: about a finger's length.

Head hard, notched and toothed on the fore-part, with 2 spines behind the eyes, 2 at the hind-head, and 2 stronger ones behind the last at the top of the head; *gill-covers* with a large spine on the hind-part; *pectoral* and *ventral* fins very much pointed; *tail* rounded.

Dors. 5, 24: *pect.* 3, 8: *vent.* 6: *an.* 14: *caud.* 10 rays.

Catchers.

Carolina. Appendages 3; first ray of the first dorsal fin slightly prickled longitudinally.

Inhabits *Carolina*; longer than the last; scales minute.

Head stellate; lateral line nearly smooth; tail bifid.

Dors. 13: pect. 15: vent. 6: an. 12: caud. 10 rays.

39. LONCHIURUS. Pectoral fins separate: tail lanceolate.

Barbatus. Brown, with 2 cirri under the chin.

Inhabits rivers of *Surinam*; about 10 inches long; body of a deeper or lighter brown.

ORDER IV. ABDOMINAL.

Gills bony ; ventral fins placed on the belly behind the thorax.

40. COBITIS. Head small, oblong, naked: eyes in the upper part of the head: nape flat; gill-membrane 4—6 rayed; the covers of one piece, shutting beneath: body covered with mucus, and small, thin, easily deciduous scales; nearly of an equal thickness from head to tail: back straight, with a single fin: lateral line hardly conspicuous: vent nearer the tail: tail rounded. Locke.

Anableps. Cirri 2; head depressed; eyes prominent. Inhabits the sea shores of Surinam. A cirrus at each angle of the mouth. Dors. 7, pect. 22, vent. 7, an. 9, caud. — rays.

- *Barbatula.* Cirri 6; head unarmed, compressed. Bearded L.
Inhabits fresh waters of Europe and Asia; 3—4 inches long; keeps at the bottom of the water on the gravel; feeds on worms and insects; is very fertile, and spawns in March and April; body finely varied with white, cinereous and blackish; flesh exquisite.
Head sloping on the fore-part, obtuse; upper lip with 4 cirri in the middle and one at each angle of the mouth; mouth and eyes minute; jaws without teeth, the upper a little longer; lateral line straight; fins cinereous; lines on the dorsal and caudal spotted with brown.
Dors. 9: pect. 10: vent. 9: an. 8: caud. 17 rays.

• *Tania.*

Tania. Cirri 6 ; a forked spine under each eye. *Groundling.*
Inhabits *Europe* ; keeps under stones in small brooks ; when handled makes a hissing noise ; feeds on worms and aquatic insects, and the spawn of other fish ; body 5 inches long, yellowish, with 4 rows of brown spots.

Head compressed, sloping ; *mouth* narrow, without teeth ; upper *jaw* a little longer ; upper *lip* with 2 cirri, lower with 4 shorter ones ; *eyes* very minute, iris whitish-yellow ; *pectoral*, *anal* and *caudal* fins cinereous, the rest yellow ; *dorsal* with 5 rows of broad spots ; *tail* rounded, broad, with 4 rows of brown spots.

Dors. 10 : *pect.* 11 : *vent.* 7 : *an.* 9 : *caud.* 17 rays.

stilis. Cirri 8 ; a forked spine over each eye.

Inhabits boggy places and muddy streams of *Europe* ; is extremely fertile, and preys on worms, insects, lesser fish and fat earth ; hides itself under the mud in winter, and is very restless before a storm, disturbing the water and getting as near as possible to the surface ; body black, longitudinally streaked with yellow and brown, with a few spots, beneath orange dotted with black, and covered with a thick skin ; about 12 inches long ; flesh good.

Head obtuse ; *iris* golden ; *mouth* oblong ; each *jaw* with 12 small sharp teeth ; upper *lip* longer ; *tongue* small, sharp ; *cheeks* and *gill-covers* yellow spotted with black ; *fins* yellow ; *pectoral*, *dorsal* and *caudal* spotted with black.

Dors. 7 : *pect.* 11 : *vent.* 6 : *an.* 8 : *caud.* 14 rays.

teroclitia Head without cirri ; dorsal and anal fins spotted with white ; tail barred with black. *Mud-fish.*

Inhabits *Carolina* ; about a palm long ; body roundish, covered with large smooth scales, beneath yellowish.

Head flattish, scaly ; *lips* denticulate ; *dorsal* and *anal* fins opposite, placed behind the equilibrium of the body, blackish, powdered with hyaline specks ; *tail* rounded, spotted with white and barred with black, the edge diaphanous.

Dors. 12 : *pect.* 16 : *vent.* 6 : *an.* 10 : *caud.* 25 rays.

aponica. Head without cirri, depressed ; jaws toothed.

Inhabits *Japan* ; 5 inches long ; body roundish.

Dors. 12, *pect.* 11, *vent.* 8, *an.* 9, *caud.* 20 rays.

41. **AMIA.** *Head* flattened, bony, rough, naked, appearing as if exoriate: *teeth* in the jaws and palate, numerous, sharp, erect: *cirri* 2, near the nostrils: *gill-membrane* 12-rayed: *body* scaly.

Calva.

Tail with a black spot.

Inhabits *Carolina*, in fresh waters; body roundish; it is seldom eaten.

Gill-covers obtuse, bony; *gullet* with 2 bony plates, striate from the centre; *lateral line* straight; *pectoral* fins not larger than the ventral; *ventral* placed behind the equilibrium; *dorsal* long, sloping; *tail* rounded.

42. **SILURUS.** *Head* naked, large, broad, compressed: *mouth* furnished with *cirri* resembling the feelers of insects: *gape* very large, extending almost the whole length of the head: *lips* thick: *jaws* furnished with teeth: *tongue* thick, smooth, very short: *gills* small: *gill-membrane* with 4—17 rays: *body* elongated, compressed, without scales, mucous: *lateral line* near the back: first ray of the *dorsal* or *pectoral* fins ferrate with reversed spines.

A. *Cirri* 2.

Militaria. Second dorsal fin fleshy; *cirri* bony, toothed.

Inhabits rivers of *Asia*; feeds on smaller fishes, and grows to a large size.

Eyes at the sides of the head; first dorsal fin falcate; back rising at the first dorsal fin; lateral line flexuous, branched, tail slightly 2-lobed.

Dors. 1, 0, pect. 1, vent. 7, an. 20, caud. 18 rays.

14. Second dorsal fin fleshy; fins unarmed.

Inhabits rivers of Surinam.

Head depressed, broad, lubricous; jaws rough; cirri short, placed before the nostrils; first dorsal fin rising near the head, the first ray larger, hardly spinous and smooth; the 4 first rays of the anal shorter; tail subtruncate, very slightly 2-lobed.

Dors. 7, 0, pect. 17, vent. 7, an. 38, caud. — rays.

B. Cirri 4.

15. Back with only one fin.

Inhabits Asia.

Cirri 2 above the mouth and 2 beneath; teeth numerous; dorsal fin without spinous rays; first ray of the pectoral serrate; anal fin long, connected with the caudal.

Dors. 5: p. 4: v. 13: a. 82: c. 16 rays.

16. Second dorsal fin fleshy; tail lanceolate.

Inhabits fresh waters of Chili; 10 inches long; body brown, beneath white; flesh very excellent.

Dors. 1, 0: pect. 8: vent. 8: an. 11: caud. 13 rays.

17. Second dorsal fin fleshy; first ray of the dorsal and pectoral fins setaceous.

Inhabits South America.

Dors. 1, 0, pect. 1, vent. 8, an. 32, caud. 15 rays.

18. Second dorsal fin one-rayed; a double row of scales on the sides.

Inhabits small running streams of Europe, and when these are dried up crawls across meadows in search of water; is said to perforate the sides of reservoirs for the purpose of making its escape.

Dors. 1, 1: pect. 1: vent. 7: an. 7: caud. 14 rays.

C. Cirri

C. *Cirri* 6.

Clanis. Dorsal fin single, unarmed.

Inhabits deep fresh waters of *Europe* and the *East*; grows to vast size, sometimes weighing 300 pounds; grows slowly, and before storms comes to the surface of the water; body thick, mucous, greenish-black, towards the belly greenish beneath, yellowish-white, varied with blackish and white spots; flesh good.

Head subspatulate, dusky-green; iris white; jaws arched, the lower longer; gullet with 4 prominent denticulate bones; pectoral fins yellow, the base and tip blueish; dorsal and ventral yellowish at the base, blueish at the tip; anal long, and with the rounded tail ashy-yellow at the base and edged with violet.

Dors. 5: pect. 18: vent. 13: an. 90: caud. 17 rays.

Electricus. Dorsal fin single, fleshy.

Inhabits rivers of *Africa*: above 20 inches long; body large, very broad on the fore-part, depressed, pale ash-colour, with a few blackish spots towards the tail; when touched communicates a shock attended with trembling and pain of the limbs, but less violent than the torpedo or electric eel; flesh eatable.

Head depressed; eyes moderate, covered with the cornea; skin; teeth crowded, small, sharp, in each jaw; scales very minute, each side 2 approximate; upper lip bearded with 2 cirri, lower with 4, of which the 2 exterior ones are longer.

Dors. 0, pect. 9, vent. 6, an. 12, caud. 18 rays.

Felis.

Second dorsal fin fleshy; anal rays 23; tail bifid.

Inhabits *Carolina*; body above blueish.

Cirri 4 under the lower jaw, and 1 above the angle of the mouth each side; ventral and anal fins reddish.

Dors. 1, 0: pect. 11: vent. 6: an. 23: caud. 31 rays.

Galeatus. Second dorsal fin fleshy; anal rays 24; tail entire.

Inhabits *South America*.

Head covered with a hard coriaceous shield; spinous ray of the pectoral and dorsal fins rigid.

Dors. 1, 0: pect. 11: vent. 6: an. 24: caud. 19 rays.

arinatus. Second dorsal fin fleshy; lateral line spinous; cirri under the lower lip connected.

Inhabits *Surinam*: body compressed.

A single *cirrus* each side the mouth and 4 under the lower lip, papillous beneath; *lateral line* subserrate and carinate with spines; first ray of the first *dorsal* fin serrate the contrary way with the pectoral; *tail* forked.

Dors. 6: *pect.* 8: *vent.* 8: *an.* 12: *caud.* 24 rays.

iloticus. Second dorsal fin fleshy; anal rays 10.

Inhabits the *Nile*: 14½ inches long; body brownish-grey; sides of the head blueish; end of the nose, under part of the head, pectoral fins and cirri tinged with red, a semicircle of reddish at the commencement of the tail.

Head large, the hind-part covered with a bone reaching to the first back-fin, and ending each side in a blunt point: upper jaw a little longer; *teeth* in the upper jaw hooked, in the lower straight; *cirri* upper 2, not much longer than the head, lower 4 shorter, slender, unequal; anterior ray of the first *dorsal* fin broad at the base and serrate within, a third of its length; first ray of the *pectoral* fin serrate; *lateral line* straight, marked with little points its whole length; *tail* forked, the rays transversely grooved. SONINI.

Dors. 7, 0: *pect.* —: *vent.* 7: *an.* 10: *caud.* — rays.

arias. Second dorsal fin fleshy; anal rays 11.

Inhabits rivers of *South America* and *Africa*; 12—15 inches long; body blackish-ash, beneath hoary; it is said to inflict venomous wounds with the serrated pectoral fin.

Head broader on the fore-part; eyes oblong, iris golden; upper jaw longer; *palate* with small sharp teeth; *gill-cover* of one piece; *back* slightly arched, covered with a bony plate, carinate before the fin and convex behind it; *lateral line* beginning at the nape, a little bent down in the middle; *fins* blackish-ash, the rays bifid; above the *pectoral* a triangular bone; fleshy fin and *anal* lunate, the latter very long; second ray of the first *dorsal* serrate each side; *tail* bicipitate.

Dors. 7, 0: *pect.* 10: *vent.* 7: *an.* 11: *caud.* 17 rays.

sciatus. Second dorsal fin fleshy; anal rays 13.

Inhabits *Surinam* and *Brasil*; body black with white bands each side, beneath white; flesh in great esteem.

Head depressed, rounded on the fore-part, a third part as long as the whole body; *fins* all spotted with black.

Dors. 7, 0: *pect.* 11: *vent.* 6: *an.* 13: *caud.* 17 rays.

Vol. I. — 5 P

Ascita.

Afcita.

Second dorsal fin fleshy; anal rays 18.

Inhabits *India*; appears to be of a mixed kind between oviparous and viviparous.

Head small, subconvex, obtuse; *nostrils* double; *cirri* 2 on the upper lip and 4 under the chin; *ventral* fins less than the anal; tail forked; first ray of the *pectoral* sharp, of the dorsal beneath hard, above soft.

Dors. 1, 0: pect. 12: vent. 6: an. 18: caud. 18 rays.

Costatus.

Second dorsal fin fleshy; a single row of scales on the sides; tail bifid.

Inhabits *South America* and *India*.

Dors. 1, 0: pect. 5: vent. 7: an. 12: caud. 17 rays.

Cataphractus.

Second dorsal fin of one ray; a single row of scales on the sides; tail entire.

Inhabits *South America*.

Dors. 1, 1: pect. —: vent. 6: an. 9: caud. 19 rays.

D. *Cirri* 8.*Aspredo*.

Dorsal fin single, 5-rayed.

Inhabits rivers of *America*.

Base of the lateral *cirri* broad; back carinate; anal fin reaching to the tail; tail forked.

Dors. 5, pect. 3, vent. 6, an. 55, caud. 11 rays.

Mystus.

Dorsal fin single, 6-rayed.

Inhabits the *Nile*; tail forked.

Dors. 6: pect. 12: vent. 6: an. 62: caud. 20 rays.

Anguillaris.

Dorsal fin single, 70-rayed.

Inhabits the *Nile*; upper part of the head greenish; body above the lateral line marbled with blackish and grey; belly and lower jaw reddish-grey; pectoral fins transversely divided by a broad red band.

Nostrils double, tubular; *cirri* 2 on the upper lip, 4 on the lower, and 2 at the angles of the mouth; between the anal fin and vent an appendage, broad at the base and ending in a point; lateral line accompanied with a line of white dots.

Dors. 70: pect. 12: vent. 6: an. 59: caud. 21 rays.

Barr

Batrachus. Dorsal fin single, 60-rayed.

Inhabits *Asia* and *Africa*: tail entire.

Dors. 60: *pect.* 4: *vent.* 6: *an.* 48: *caud.* 14 rays.

Undecim- Dorsal fin single, 11-rayed.

lis.

Inhabits *Surinam*: tail forked.

Dors. 11, *pect.* 11, *vent.* 6, *an.* 11, *caud.* 17 rays.

Catus.

Second dorsal fin fleshy, anal 20-rayed.

Inhabits *Asia* and *America*.

Dors. 6, 0, *pect.* 11, *vent.* 6—8, *an.* 20, *caud.* 17 rays.

Cous.

Second dorsal fin fleshy, anal 8-rayed; tail forked.

Inhabits *Syria*: cirri shorter than the head.

Dors. 4, 0: *pect.* 9: *vent.* 6: *an.* 8: *caud.* — rays.

Doemac.

Second dorsal fin fleshy, anal 10-rayed.

Inhabits the *Nile*: about a yard long; body cinereous, beneath whitish, above convex.

Head depressed; *cirri* each side 4, the outer ones longer, the outmost on the upper lip half as long as the body; *lateral line* straight, nearer the back; first ray of the *pectoral* and *dorsal* fins bony and serrate behind, the tips soft.

Dors. 10, *pect.* 11, *vent.* 6, *an.* 10, *caud.* 18 rays.

Bajad.

Second dorsal fin fleshy, anal 12-rayed.

Inhabits the *Nile*; about a foot long; body glaucous.

Head obtuse, depressed, with a hollow each side before the eyes; upper jaw longer, with a double transverse arch of small teeth; outer *cirri* of the upper lip very long, *lateral line* descending at the beginning and afterwards quite straight; above the *pectoral* fins a strong retroverted spine under the skin; fins reddish, the fleshy one glaucous and long; tail straight, extended, dilated towards the tip and bifid.

Dors. 10, *pect.* 11, *vent.* 6, *an.* 12, *caud.* 20 rays.

E. *Cirri* 9.

Cornutus. First ray of the first dorsal fin serrate; pectoral unarmed.

Inhabits *Arabia*: body oval about a span long, carinate beneath before the ventral fin: probably not of this genus.

5 P 4

Snout

Snout compressed, straight, a little recurved at the end, obtuse and half as long as the body; serrate dorsal ray reaching as far as the middle of the tail, toothed more than half way up with a double row of spines.

Dors. 2, 6: pect. —: vent. —: an. —: caud. 9 rays.

Imberbis. Gill-covers with 2 spines on the hind-part.

Inhabits *Japan*; about 6 inches long; body funnel-shaped, reddish, coated with scales.

Head depressed; eyes large, approximate; jaws without teeth; fins varied with black and white; tail rounded.

Dors. 1, 11: pect. 20: vent. 6: an. 10: caud. 13 rays.

43. TEUTHIS. Head truncate on the fore-part: gill-membrane 5-rayed: teeth equal, rigid, approximate, in a single row.

Hepatus. Each side the tail a recumbent moveable spine.

Inhabits *Carolina* and *Amboina*; body blueish, back black; tail varied with whitish and black.

Head very much sloping; spines near the tail, strong, subulate, and hid in a groove when recumbent; tail even.

Dors. 2: pect. 16: vent. 3: an. 2: caud. — rays.

Java. Tail unarmed.

Inhabits *Java*: body with longitudinal blackish spots.

First and last rays of the ventral fins spinous; tail lunate.

Dors. 2: pect. 15: vent. 3: an. 2: caud. — rays.

44. LORICARIA.

44. LORICARIA. *Head* smooth, depressed; *mouth* without teeth, retractile; *gill-membrane* 6-rayed; *body* mailed,

ataphrac- Dorsal fin single; cirri 2.

ta. Inhabits South America; tail forked, the upper lobe ending in a long setiform ray.

Dors. 1, *pect.* 1, *vent.* 1, *an.* 1, *caud.* 12 rays.

lecosto- Dorsal fins 2; cirri 2.

mus. Inhabits South America; tail forked.

45. SALMO. *Head* smooth, compressed; *mouth* large; *lips* small; *tongue* white, cartilaginous, moveable; *eyes* moderate, lateral; *teeth* in the jaws and on the tongue; *gill-membrane* 4—12-rayed; the cover of 3 laminæ; *body* long, covered with rounded and very finely striate scales; *back* convex; *lateral-line* straight, nearer the back; hind-most *dorsal* fin fleshy, without rays; *ventral* fins of many rays.

Salmon.

Most of the fishes of this family are found in rapid stony rivers, and are impatient of foul water; a few of them inhabit the sea, but get into rivers once a year for the purpose of depositing their spawn in beds of gravel; for this purpose they will surmount any difficulties, ascend many hundred miles up, force themselves against the most rapid streams, and spring with amazing agility over any thing that happens to impede them to the height of 7 or 8 feet; after spawning they return to the sea poor and lean; they feed on other fishes; vary much in their colours, and the flesh of all is excellent; the *vent* is near the tail.

A. Body

A. *Body variegated.***Salar.*

Upper jaw extending beyond the lower.

Salmo.

Inhabits chiefly *Northern Seas*, and ascends rivers annually in large shoals for the purpose of spawning; swims near the surface, but during storms sinks to the bottom; is said to be fearful of any thing red, but allured by a white colour; grows rapidly, and sometimes reaches to 6 feet long; feeds on fishes, worms and insects; body above blackish, the sides blueish, beneath silvery, sometimes with cinereous or black spots; scales deciduous; flesh red.

Head wedged, small; *front* and *cheeks* black; *eyes* small, iris silvery, yellow at the corners; *teeth* in both jaws sharp, and between them other moveable and lesser ones; the end of the lower jaw in the full-grown male turns up into an oblique hook; *palate* with 2 rows of sharp teeth; *tongue* with 6—8 recurved teeth; *gill-membrane* yellow or white; *pectoral fins* yellow at the base, above blueish; *ventral* and *anal* yellow, the former with each of them an appendage at the base; *caudal* semilunar, blue; *first dorsal* cinereous, spotted; the *second dorsal* one and *lateral line* black.

D. 14 : *p.* 14 : *v.* 10 : *a.* 13 : *c.* 21 rays.

**Salmo mulleri.*

Lower jaw longer; body with black spots.

Inhabits the seas of *Northern Europe* and lakes of *Asiatic*; body silvery, above brown; scales easily deciduous.

Head pointed; *iris* silvery-yellow; *palate* and *tongue* toothed; *lateral line* black, in the middle of the body; *fins* brown mixed with blue, the *ventral* with an appendage; *caudal* forked.

Dors. 15 : *pect.* 18 : *vent.* 10 : *an.* 13 : *caud.* 19 rays.

**Eriox.*

Body with cinereous spots; tail even.

Sewen. Grey S.

Inhabits *European* seas; is much less than the salmon and the flesh paler, but ascends rivers like it.

Head more sloping and shorter than the salmon; body above the *lateral line* deep grey with purplish spots; *below* silvery.

Dors. 14 : *pect.* 14 : *vent.* 10 : *an.* 12 : *caud.* — rays.

**Trutta.*

Body with black spots encircled with brown; pectoral fin with 6 dots.

Salmon Trout. Bull Trout.

Inhabits

Inhabits *European* seas, and like the salmon ascends rivers periodically ; seldom exceeds 2 feet long ; above dusky, with a gloss of blue and green, the sides violet, beneath white ; feeds on small fish, insects and worms ; flesh pale red and excellent.

Head small, wedged ; *nose* and *front* black ; *cheeks* violet-yellow ; *eyes* small, iris yellowish-silvery ; *jaws* equal ; *teeth* sharp, a little curved ; *palate* with 3 rows of teeth ; *tongue* with 10—12 teeth, in 2 rows ; *fins* with branched rays, cinereous, the *caudal* and fleshy *dorsal* ones black ; the latter and the first *dorsal* spotted ; *tail* broad, slightly bifid.

*2. First dorsal fin spotted ; tail black, much forked.

White Trout.

Migrates out of the *Sea* into the *Esk* in *Cumberland* ; seldom exceeds a foot long ; body above mixed black, dusky and silvery, beneath the lateral line of an exquisite silvery whiteness ; first dorsal fin spotted with black.

Upper *jaw* a little longer, with 2 rows of teeth, lower with one ; *tongue* with 6 teeth ; *lateral line* straight.

Dors. 14, *pect.* 14, *vent* 9, *an.* 10, *caud.* 20 rays.

2) *Dors.* 11 : *pect.* 13 : *vent.* 9 : *an.* 9 : *caud.* — rays.

ario. Body with purple-red spots ; lower jaw a little longer.

Trout.

2. Above brown with violet spots ; the sides whitish-yellow, with red spots, surrounded with white and a brown area, beneath white.

Inhabits rivers of *Europe* and *Siberia* leading into the sea, but chiefly mountainous and rocky torrents ; about a foot long ; swims with great velocity, and leaps high out of the water ; is very fertile and voracious ; feeds on lesser fish, even of its own tribe, worms, testaceous animals and marine insects ; body narrow, with blackish spots above, above the lateral line greenish-black, beneath it golden, with red spots surrounded with blueish, belly white.

Head large ; *nose* and *front* blackish-green ; *cheeks* varied with yellow and green ; *teeth* curved inwards ; *palate* with 3 rows of teeth each side, the middle largest ; *tongue* with 6—8 teeth ; *iris* white, with a semilunar blackish edge ; *pectoral* fins brownish ; *ventral* yellow, with a pointed appendage ; first rays of the *anal* purple, the others varied with cinereous and yellow ; *dorsal* cinereous, with numerous small purple spots ; *tail* truncate, slightly bifid, streaked with yellowish-black.

Dors. 14, *pect.* 10, *vent.* 10, *an.* 10, *caud.* 18 rays.

Erithri.

Eritrinus Body with scarlet ocellate spots ; jaws equal.

Inhabits lakes and rivers of *Siberia* : 2 feet long ; is fat. and the flesh red and tender ; body roundish, compressed, above brown, beneath scarlet, the fore-part reddish-white.

Head slightly compressed ; front and gill-covers grey ; iris greenish ; snout conic, obtuse ; teeth in the palate and jaws in a double arch ; tongue broad, toothed ; dorsal fin grey, with dirty-red ocellate spots, the fleshy one brown, long ; pectoral paler ; ventral and anal deep scarlet ; tail forked, reddish-brown.

Dors. 10—12 : pect. 13 : vent. 9 : an. 11 : caud. 19 rays.

Gadenii. Head small ; body spotted with red.

Inhabits seas of *Northern Europe* ; body long, slender, $1\frac{1}{2}$ feet long, silvery, above brownish, the spots surrounded with a white ring.

Eyes large, iris silvery ; mouth large ; teeth sharp, in the palate and jaws ; lateral line a little nearer the back ; fleshy back-fin and forked tail brownish, the rest yellowish ; ventral with an appendage ; dorsal spotted with brown.

Dors. 12 : pect. 15 : vent. 10 : an. 11 : caud. 18 rays.

Hucho. Oblong ; palate with 2 lines of teeth ; trunk and fins, except the pectoral, spotted with black.

Inhabits *Northern* lakes and rivers ; $2\frac{1}{2}$ feet long ; back brown, sides and belly white.

Head pointed, above brown, and silvery at the sides ; jaws with a single row of sharp teeth ; palate and tongue with a double row ; lateral line narrow ; fins yellowish ; ventral with an appendage ; tail forked.

Dors. 13 : pect. 17 : vent. 10 : an. 12 : caud. 16 rays.

• *Lacustris* Tail forked ; body with minute black spots ; belly with a longitudinal groove. *Lake Trout.*

Inhabits *Northern* lakes, and grows to a vast size.

• *Carpio.* Palate with 5 rows of teeth. *Gilt Charr.*

Inhabits rivers of *England* and *Switzerland* ; very small.

Iris white ; sides and belly silvery ; back with black spots ; each side the lower jaw 8 punctures ; fleshy fin not edged with red.

• *Alpinus.* Back black ; sides pale blue ; belly orange. *Red Charr.*
Inhabit.

Inhabits northern mountainous lakes ; feeds on the larvæ of the gnat kind ; in spring and autumn frequents the borders shaded with trees, where it deposits its spawn ; body above greenish ; beneath white ; flesh red.

Head obtuse ; *iris* silvery with a golden edge ; *dorsal* fin yellowish, spotted with black ; the rest reddish ; the fleshy one edged with red ; *ventral* with a narrow appendage.

Dors. 13 : *pect.* 14 : *vent.* 10 : *an.* 12 : *caud.* 19 rays.

luvelinus. First ray of the ventral and anal fins white.

Inhabits the colder lakes of *Germany* : grows to 10 pounds weight ; body with orange spots surrounded with a whitish ring, above brown, white at the sides, beneath orange.

Head compressed ; upper jaw longer ; *iris*, *cheeks* and *gill-covers* silvery ; *mouth* large ; *tongue* cartilaginous, loose, and like the *palate* with 2 rows of sharp teeth ; *nostrils* double ; *pectoral*, *ventral* and *anal* fins red, the ventral with an appendage ; *dorsal* and forked *tail* brown.

Dors. 13 : *pect.* 14 : *vent.* 9 : *an.* 12 : *caud.* 24 rays.

lmari- Back tawny with yellow spots ; tail forked.

us. Inhabits cold stony rivers of *Italy* : resembles the last.

nbla. Lateral lines turned up ; tail forked.

Inhabits lakes of *Switzerland* and *Italy* ; about $1\frac{1}{2}$ pound weight ; body above greenish, beneath whitish ; scales very small and thin ; flesh tender, and turns red when boiled.

Iris reddish ; *cheeks* and *gill-covers* whitish ; upper jaw with a double, lower with a single row of teeth ; *fins* short, yellowish-green ; *tail* forked.

Dors. 10 : *pect.* 15 : *vent.* 9 : *an.* — : *caud.* 18 rays.

gentinus Body with a longitudinal silvery stripe ; anal fin very long.
Inhabits *Brazil*.

imen. Brownish, with numerous darker spots ; tail forked.

Inhabits rivers emptying themselves into the *Frozen Sea* ; body fat, round, compressed towards the tail, a little silvery at the sides, beneath white ; half a yard long ; flesh white.

Head long, fat, the snout a little depressed ; *teeth* hooked ; lower jaw a little longer ; *dorsal* fins brown ; *ventral* whitish, with an appendage ; *anal* very red ; *tail* dusky-red.

Dors. 12—13 : *pect.* 15—18 : *vent.* 10 : *an.* 10 : *caud.* — rays.

Vol. I, — 5 Q

Nelma?

- Nelma.* Silvery-white; head very long; lower jaw much longer. Inhabits the larger rivers of *Siberia*; 2 yards long; *caud.* large. Pupil oblong, iris silvery; snout a little depressed; tail forked.
- Lenok.* Pale gold, with a few brown spots; above reddish, beneath yellowish. Inhabits rapid and stony rivers of the mountains of *Siberia*, and is chiefly found near water-falls; about a yard long; body broad, thick; flesh white. Eyes small, angular on the fore-part, iris silvery; dorsal fins spotted; pectoral pale yellow; ventral reddish, with an appendage; anal deep red; tail reddish-brown, bifid. Dors. 12—13: pect. 16: vent. 10: an. 12: caud. — rays.
- Kundsha.* Silvery with white dots; tail forked. Inhabits bays of the *Arctic* seas, and does not ascend rivers; 2 feet long; resembles *S. eriox*, except that the tail is forked; body above and beneath the lateral line blueish. Iris yellow-silvery; fleshy fin small, serrate; ventral with an appendage. Dors. 11—12, pect. 14, vent. 9, an. 10, caud. — rays.
- Arcticus.* Silvery, with 4 rows of brown dots and fine lines each side; tail forked. Inhabits stony rivulets running into the *Arctic* sea; about a finger's length; resembles a young *Thymallus*. Head hardly compressed; front flat, with 3 longitudinal ridges; snout rounded, the jaws nearly equal; iris silvery. Dors. 18, pect. 16, vent —, an. 10, caud. — rays.
- Stagnalis.* Above brownish, beneath white; body roundish; upper jaw longer. Inhabits the remoter mountainous rivers of *Greenland*; about 17 inches long; body long, growing slender towards the tail and not spotted; flesh white. Head large, oblong-oval, compressed; snout rather pointed; tongue long, nearly obtuse, and like the jaws toothed at the edge; palate with 3 rows of crowded teeth; teeth strong, curved, very sharp; gill-covers large, smooth, double; lower fins hoary, white at the base; pectoral a little longer than

the back ; *tail* slightly forked, large ; fleshy *fin* falcate, rounded at the tip ; *rays* of the dorsal 2 inches long, and nearly equal.

Dors. 14, *pect.* 14, *vent.* 10, *an.* 10, *caud.* 21 rays.

Rivalis. Elongated, brown, belly reddish ; head obtuse.
Inhabits muddy rivers and stagnant waters of *Greenland* : hardly 6 inches long ; body smooth, mucous, spotted with black, beneath dirty-red ; resembles *S. carpio*, but is longer and more slender, and the head is more obtuse ; feeds on insects.
Iris flame-colour.

Stræmii. Dorsal and ventral fins edged with white.
Inhabits muddy waters of *Denmark*.

Lepechni. Upper jaw a little prominent ; back brown ; sides with small black ocellate spots surrounded with reddish ; belly flame-colour.
Inhabits stony rivers of *Russia* and *Siberia* ; resembles *S. alpinus* ; 8 inches long ; scales small ; flesh reddish and firm.
Head large, compressed, above greenish ; *eyes* large, iris yellow ; *cheeks* silvery ; *jaws* with firm sharp teeth, curved inwards, the lower with 60 ; *dorsal fin* dusky with large square spots, the others flame-colour.
Dors. 9 : *pect.* 14 : *vent.* 9 : *an.* 12 : *caud.* 20 rays.

B. *Dorsal and anal fins opposite.*

Eperianus. Head diaphanous ; rays of the anal fin 17. *Smelt.*
Inhabits the shores of *Europe*, and ascends rivers in vast shoals in the spawning season ; is very fertile, and feeds on worms and testaceous animals ; has a peculiar smell, is subdiaphanous, shining covered with silvery deciduous scales ; body above cinereous, the sides silvery, green and blue, beneath reddish-white ; varies in size, some being 3—5, others 8—13 inches, and these last have a much fainter smell.
Head small, cinereous, obtuse at the tip ; *eyes* large, pupil black, iris silvery ; under *jaw* longer, and a little curved ; in the front of the upper *jaw* are 4 larger teeth ; *palate* with 2 rows of teeth ; *tongue* with 2 rows of larger.
Dors. 7 : *p.* 11 : *v.* 8 : *a.* 17 : *c.* 19 rays.

Saurus. Rays of the anal fin 10.

Inhabits *Europe*.

Dors. 12 : *p.* 13 : *v.* 8 : *a.* 10 : *c.* — rays.

C. Teeth hardly visible or 0.

Migratorius. Jaws nearly equal ; dorsal fin 12-rayed.

Inhabits the lake *Baikal* in *Siberia*, from which it descends the rivers that empty themselves into it for the purpose of spawning ; from 14 inches to 2 feet long ; body a little compressed, silvery, above grey.

Head compressed ; *iris* saffron ; *mouth* without teeth ; *jaws* subconic ; upper *fins* grey, lower reddish-white.

Dors. 12 : *pect.* 17 : *vent.* 12 : *an.* 13 : *caud.* 20 rays.

• *Lavaretus.* Upper jaw longer ; dorsal fin 14-rayed.

Gwinia.

2. Snout nasiform ; body broader.

Lavaret.

Inhabits *Northern Europe*, and in spawning time approaches the mouths of rivers in immense shoals, swims near the surface in an acutangled column, with a leader at the head ; after spawning it returns to the sea and becomes the prey of seals and other predatory fish ; body above glaucous, blueish at the sides, mixed with purple, towards the lateral line silvery, tinged with gold, beneath silvery ; beneath the lateral line are 45 yellowish dots ; flesh excellent.

Head small, wedged, nearly diaphanous as far as the eyes ; *fins* broad, sloping, yellowish ; *nose* blunt, fleshy, black ; *mouth* small, without teeth ; *tongue* white, cartilaginous, short, a little rough ; *eyes* moderate, pupil deep blue, *iris* silvery ; *cheeks* and *gill-covers* varied with blue and yellow ; *pectoral fins* yellowish, the rest with whitish rays, the connecting membrane blueish ; fleshy *fin* rhombic ; *tail* forked.

Dors. 14 : *pect.* 15 : *vent.* 12 : *an.* 14 : *caud.* 20 rays.

Pidschian. Upper jaw longer ; back gibbous ; dorsal rays 13.

2. Body broader ; anal rays 14.

Inhabits the *Oby* ; 2 spans long ; resembles the last.

Iris silvery-yellow ; *ventral fins* with long, triangular appendages.

Dors. 13 : *pect.* 14 : *vent.* 11 : *an.* 16 : *caud.* --- rays.

Schokur. Upper jaw longer ; head small ; dorsal fin angular on the hind-part and 12-rayed.

Inhab.

Inhabits the *Oby*; 2 feet long; very much resembles *S. lavaretus*, but is larger and a little broader, head less compressed, snout more obtuse, rounded, with 2 obsolete tubercles; ventral fins with short obtuse appendages.

Dorsf. 12: *pect.* 17: *vent.* 11: *an.* 14: *caud.* --- rays.

vasus.

Upper jaw longer; head thick; dorsal rays 12.

Inhabits the *Oby*; $1\frac{1}{2}$ foot long; is shaped like the *Gwiniad*, but is broader and thicker; scales large.

Head very little compressed; upper jaw gibbous as far as the eyes and obtuse; appendages of the ventral fins very short and triangular; tail forked.

Dorsf. 12, *pect.* 18, *vent.* 11—13, *an.* 13, *caud.* --- rays.

Mulleri.

Jaws without teeth, the lower longer; belly punctate.

Autumnalis.

Lower jaw longer; dorsal fin 11-rayed.

Inhabits the *Frozen Sea*, and ascends periodically, in vast shoals, the rivers which empty themselves into it; $1\frac{1}{2}$ foot long; body fat, compressed, coated with large silvery scales; it dies immediately after it is taken out of the water.

Iris pale gold; mouth without teeth; gills gaping very wide; appendages nearly half as long as the ventral fins; tail forked.

Dorsf. 12: *pect.* 16: *vent.* 12: *an.* 13: *caud.* --- rays.

albula.

Jaws without teeth, the lower longer; second lamina of the gill-covers scymetar-shaped.

Inhabits *Europe*; 6 inches long; body greenish-brown, silvery at the sides; scales imbricate, entire, roundish, spotted with black.

Eyes large, iris silvery; aperture of the gills very large; back carinate before the fin; lateral line a little bending near the beginning, nearer the back, and composed of 70—80 dots; fins pale with blackish spots.

Dorsf. 12: *pect.* 17: *vent.* 11: *an.* 15: *caud.* 33 rays.

Peled.

Without teeth; rays of the dorsal fin 10.

Inhabits northern *Russia*; $1\frac{1}{2}$ foot long; body fat; back blueish, sides and belly white; head dotted with brown; is very nearly allied to *S. albula*.

Head conic; snout obtuse; iris whitish-yellow; lower jaw a little longer.

Dorsf. 10: *pect.* 16: *vent.* 13: *an.* 14: *caud.* 22 rays.

**Thymal-*

Thymallus. Upper jaw longer ; dorsal rays 23. *Grayling.*
 Inhabits *Europe* and *Siberia*, in clear and rapid mountainous streams ; 2 feet long ; swims swiftly and grows very fast ; feeds on testaceous animals, lesser fish, insects and the spawn of fishes ; is the prey of aquatic birds ; body elongated, above silvery-grey, varied with blue, beneath white ; scales large and hardish ; flesh excellent.

Head obtuse, spotted with black, above brown, the sides blueish-black ; *iris* golden, dotted with black ; *jaws* with small, wedged teeth, those in the upper a little larger ; *tongue* smooth ; *back* arched ; *sides* compressed ; *lateral line* dotted with black ; *dorsal fin* large, violet, greenish at the base, and spotted with pale red ; *pectoral* cinereous, short ; *ventral* reddish, with an appendage at the base ; *anal* chestnut ; *tail* reddish, forked.

Dors. 23 : *pect.* 16 : *vent.* 12 : *an.* 14 : *caud.* 19 rays.

Marana. Upper jaw truncate.
 Inhabits lakes of northern *Europe* : above 2 feet long ; is very fertile and lives in deep waters, except in spawning time, and in the spring, when it rises to the surface in search of testaceous animals ; is the prey of rapacious fishes and waterfowl ; body above blackish, the sides blueish, inclining to yellow beneath ; belly white ; flesh white and excellent.

Head obtuse ; *eyes* large, pupil acutangular on the fore-part, *iris* silvery ; *mouth* small, without teeth ; upper *jaw* longer, with 2 small punctures at the edge ; *lateral line* with 44 white dots, and bent near the head ; *fins* pointed on the fore-part, blueish, the base violet and edged with black, the rays branched ; *tail* forked ; *ventral* with an appendage.

Dors. 14 : *pect.* 14 : *vent.* 11 : *an.* 15 : *caud.* 20 rays.

Maranula Lower jaw longer ; rays of the anal fin 14.

Inhabits lakes of northern *Europe* ; 6---10 inches long ; is gregarious, and covered with silvery, deciduous scales ; body silvery, back blueish ; is very fertile ; flesh white and well-tasted.

Head pointed, subdiaphanous, greenish-brown ; *iris* and *cheeks* silvery ; *mouth* without teeth ; lower *jaw* curved, narrower than the upper ; *tongue* short, cartilaginous ; *lateral line* with 58 dots ; *fins* hoary ; *tail* forked, edged with blue.

Dors. 10 : *pect.* 15 : *vent.* 11 : *an.* 14 : *caud.* 20 rays.

Wartman- Blue ; upper jaw truncate.
ni.

Inhabits

Inhabits alpine lakes of *Switzerland*: 17 inches long; is very fertile and feeds on worms, insects, herbs and a sort of sponge; body whitish towards the belly; scales very large; flesh very fine.

Greater part of the *head* and *iris* silvery; *jaws* equal; *lateral line* black; *fins* with a broad blue border; *pectoral*, *ventral* and *anal* yellowish at the base; *dorsal* and *lunate tail* whitish; an appendage near the ventral fins.

Dors. 15: *pect.* 17: *vent.* 12: *an.* 14: *caud.* 23 rays.

cyrin-
us.

Upper jaw longer, conic.

Inhabits the *Atlantic Ocean*.

Dors. 14, *pect.* 13, *vent.* 10, *an.* 15, *caud.* — rays.

mba.

Fleshy fin slightly ferrate.

Inhabits rivers of *Sweden*.

Dors. 12, *pect.* 16, *vent.* 10, *an.* 14, *caud.* — rays.

eucich-
hys.

Upper jaw very broad, entire and shorter; lower ascending, tuberculate at the end.

Inhabits the *Caspian Sea*; 3 feet long; body oblong, a little compressed, spotted with black, above blackish-hoary; scales roundish, smooth, silvery.

Crown arched, naked, very smooth, subdiaphanous, greenish-brown; *eyes* lateral, large, *iris* silvery, dotted with black; *snout* very obtuse; *mouth* without teeth, very large, square; *tongue* triangular, a little rough; *palate* flat, broad, rough to the touch; *gill covers* compressed, of 4 pieces; *dorsal fin* pale brown; *pectoral* pointed, white; *ventral* rounded, white, spotted with brown on the fore-part, the appendage triangular; *anal* reddish, spotted with brown; *tail* perpendicular, semilunar.

Dors. 15: *pect.* 14: *vent.* 11: *an.* 14: *caud.* 27 rays.

D. Gill-membrane with not more than 4 rays.

Dentex.

Silvery with brown and whitish lines above; fins whitish; lower half of the tail red.

Inhabits the *Nile* and *Siberia*.

Teeth large, subulate, extending out of the mouth.

Dors. 10, *pect.* 14, *vent.* 9, *an.* 26, *caud.* 19 rays.

Gasterope-

Gasterosteus. Ventral and fleshy fins very small.
leucus.

2. Fins yellow.

Inhabits *Carolina*, *Amboina*, *Surinam* and *India*; body compressed, very small, silvery, with a steel gloss.

Head a little depressed, with 2 unequal grooves, separated by a partition; *eyes* large, round, iris silvery; *mouth* placed above, and large; *jaws* toothed, the upper ascending, longer, and is the only moveable one; *tongue* white, smooth, thick; *aperture* of the *gills* large, the cover smooth; from the *gullet* to the *vent* is an arched, thin, scaly, carinate bone; *vent* in the middle of the body; *fins* cinereous; *pectoral* long, falcate; *tail* forked.

Dors. 13: *pect.* 9: *vent.* 2: *an.* 34: *caud.* 22 rays.

Gibbosus. Back gibbous, compressed; anal fin with 50 rays.

Inhabits *Surinam*.

Dors. 10, *pect.* 11, *vent.* 8, *an.* 55, *caud.* 19 rays.

Notatus. A black spot each side near the gill-covers.

Inhabits *Surinam*; body oblong, with a black spot above the lateral line; resembles the next.

Head a little pointed; *fleshy fin* small; *tail* forked.

Dors. 11: *pect.* 16: *vent.* 7: *an.* 23: *caud.* 24 rays.

Bimaculatus. Body compressed, with 2 spots; anal fin 32-rayed.

Inhabits *South America*.

Dors. 10: *p.* 13: *v.* 8: *a.* 32: *c.* 19 rays.

Immaculatus. Body without spots; anal fin 12-rayed.

Inhabits *America*.

Dors. 11, *pect.* 14, *vent.* 11, *an.* 12, *caud.* 20 rays.

Fatens. Rays of the dorsal and anal fins 12.

Inhabits *Carolina*; body oval, a little pointed, blackish-ash.

Teeth numerous, extending out of the mouth, mucronate; *anal fin* opposite the fleshy one; *tail* lunate.

Dors. 12: *pect.* 14: *vent.* 8: *an.* 12: *caud.* 24 rays.

Cyprius.

- Cyprinoides*. First rays of the dorsal fin long, setaceous.
Inhabits Surinam; body snow-white.
Head flat above; eyes prominent; tail forked.
Dors. 10: pect. 10: vent. 9: an. 10: caud. — rays.
- Niloticus*. Body white; all the fins yellowish.
Inhabits the Nile.
Dors. 9: pect. 13: vent. 9: an. 26: caud. 19 rays.
- Egyptius*. Back greenish; teeth in the lower jaw larger.
Inhabits Egypt: tail scaly at the base. Dors. 23.
- Pulverulentus*. Fins slightly dusted; lateral line descending.
Inhabits America.
Dors. 11: pect. 16: vent. 8: an. 26: caud. 18 rays.
- Rhombeus*. Belly ferrate; anal and caudal fins black at the base and edge.
Inhabits Surinam: body compressed, oval-lanceolate, subangular on the back, and a little gibbous from the nape to the dorsal fin; grey or yellowish-silvery, towards the back brownish; is said to bite off the legs of ducks.
Head naked, thicker than the body; eyes red, sunk in the orbits, iris golden; mouth obtuse, large; lips thin, the lower longer; teeth in the edge of the jaws strong, triangular, sharp both at the edge and point, those in the longer lower jaw contiguous, the fore-ones larger, except the 2 middle ones, those in the upper a little reclined, alternately less; palate deeply carinate, each edge rough with teeth; tongue soft, a little pointed and flat; gill-covers striate; abdominal ridge reaching from the chin nearly to the vent, ferrate, with sharp, conic, bony teeth; vent in the middle of the body; fins blackish at the edge; before the dorsal fin a decumbent spine, 2-pointed on the hind-part; ventral small, the appendage very minute and linear; anal large, fleshy at the base; tail large, 2-lobed.
Dors. 17: pect. 17: vent. 6: an. 32: caud. 16 rays.
- Inostomus*. Mouth simous.
Inhabits South America and India.
Dors. 11: pect. 13: vent. 7: an. 10: caud. 25 rays.

46. FISTULARIA. Snout cylindrical; jaws distant from the eyes: gill-membrane with 7 rays: body round, gently tapering from the jaws to the tail.

Tobacco-pipe Fish.

Tabacaria Tail bifid, ending in a slender taper whip.

Inhabits *America* and *Japan*; about a foot long, brown.

Tail forked, with a slender appendage, of the consistence of whale-bone and about 4 inches long from the middle of it.

Dors. 8: pect. 14: vent. 6: an. 4: caud. 13 rays.

Chinenfis. Tail rounded, without the long appendage.

Inhabits *India*.

Dors. 26: pect. 16: vent. 6: an. 24: caud. 11 rays.

Paradoxa. Body reticulate with prominent lines; tail lanceolate.

Inhabits *Amboina*: 2 inches long; has some resemblance to a *Syngnathus*; body whitish-ash, with obsolete brown rivulets, the first dorsal fin and tail blackish; compressed, and spinous at the intersections of the lines; back perfectly triangular; belly, towards the ventral fins, nearly triangular, and behind them narrow, and equally 6-sided; tail slender; compressed, and 7-sided.

Head rather small; eyes large, at the base of the snout, with a triangular spine each side before the orbits; snout very long, descending, straight, horny, flattish compressed, slender, beneath with 2 longitudinal ribs, and a small conic spine each side towards the back; jaws ascending at the end, pointed, flattened at the sides, dilatable, the lower a little shorter; mouth small; nape 3-spined; gill-covers very thin, small, radiate with a few prominent lines; first dorsal fin long, reclined, with small black bands, the rays simple; pectoral very broad; ventral very large, the rays deeply many-cleft, and connected by a lax membrane, forming a longitudinal pouch.

Dors. 5: 18: pect. 25: vent. 7: an. 12: caud. 14 rays.

47. ESOX.

47. ESOX. *Head* flattish above : *mouth* and *throat* large : *jaws* toothed, unequal, the upper flat, the lower punctate : *tongue* broad, loose : *palate* smooth : *eyes* round, moderate, lateral : *nose* double, near the eyes : *gill-covers* large ; the aperture ample ; the membrane 7—12-rayed : *body* elongated, coated with hard scales, above convex, and compressed at the sides : *lateral line* straight, nearer the back, hardly visible : *dorsal* and *anal* fins very short, and (mostly) opposite.

Pike.

Ephyra. Dorsal fins 2, the first spinous.

Inhabits the *Mediterranean*.

Dors. 5, 10 : *pect.* 12 : *vent.* 6 : *an.* 10 : *caud.* 17 rays.

Offens. Upper jaw longer ; scales bony ; tail quadrangular.

Great Gar-fish.

Inhabits *North America*, *Asia* and is rarely found on the *Suffex* coast ; scales imbricate, rhombic, those on the back rounded and retuse ; body long and small ; 2 feet long.

Lower jaw ending before the eyes ; the anterior ray of each fin with a double row of teeth ; iris yellow ; dorsal fin behind the anal.

Dors. 6 : *pect.* 11 : *vent.* 6 : *an.* 5 : *caud.* 12 rays.

Iridis. Green ; lower jaw longer ; scales thin.

Inhabits rivers of *Carolina*.

Dorsal and *anal* fins exactly opposite ; scales distinct.

Dors. 11 : *pect.* 11 : *vent.* 6 : *an.* 17 : *caud.* 26 rays.

Vulpes. Dorsal fin in the middle of the back; gill-membrane 3-rayed.

Inhabits North America.

Dorsf. 14: pect. 14: vent. 8: an. 10: caud. 17 rays.

Synodus. Dorsal fin in the middle of the back; gill-membrane 5-rayed.

Inhabits North America: resembles the last.

Dorsf. 11: pect. 12: vent. 8: an. 6: caud. 8 rays.

**Lucius.* Snout depressed; jaws nearly equal.

Common P.

2. Upper jaw a little shorter.

Inhabits most lakes of Europe, Lapland and northern Persia, 2) North America, and is found even in the Caspian Sea: swims and grows very rapidly, 1---8 feet long; is extremely voracious and long-lived; feeds on almost any thing which comes in its way, even its own tribe; spawns from February to April; body above black, the sides cinereous spotted with yellow, beneath white dotted with black; rarely orange spotted with black or green; scales small, oblong, hard.

Head broad, flat; upper jaw broad, shorter; under jaw turns up a little and is punctured at the end; pupil blueish, iris golden; teeth in the jaws alternately fixed and moveable; palate with 3 rows of parallel longitudinal teeth, the middle ones small, the others larger and bent inwards; fins with branched rays; pectoral and ventral reddish, the rest spotted with black; dorsal and anal brownish; tail brown.

D. 21: p. 15: v. 11: a. 18: c. 19 rays.

**Belone.* Each jaw long, subulate.

Sea P. Gar P.

Inhabits the deeps of the Ocean, and migrates annually toward the coasts, always preceding the mackerel; is seldom eaten and is 1½---4 feet long; body narrow, long, slender, above black, the sides greenish-blue coated with oblong thin scales, beneath silvery.

Head small; cheeks and gill-covers silvery blueish-greenish; eyes large, round, iris silvery; jaws rounded, the teeth mutually receiving each other; lateral line commencing above the gill-cover, nearer and parallel with the belly, and ending at the caudal fin; fins short; pectoral and ventral cinereous, the rays branched; dorsal and anal blueish, the rays simple; tail a little forked, edged with blue, the rays split at the end; the bones have a shining green splendor by night.

Dorsf. 16, pect. 13, vent. 7, an. 21, caud. 23 rays.

Heist.

Hesperus. Lateral line silvery.Inhabits *America*; dorsal and anal fins opposite.*Dors.* 14, *pect.* 12, *vent.* 6, *an.* 15, *caud.* 14 rays.*Chilensis*. Jaws equal; lateral line blue.Inhabits *Chilese* seas; 2—3 feet long; body round, covered with bony angular deciduous scales, above golden beneath silvery; flesh white, something pellucid, flaky and excellent.*Head* moderate, compressed; *eyes* large, round, lateral; *mouth* transverse, terminal, moderate; *teeth* fixed, crowded, very small; *tongue* entire, and with the *palate* smooth; aperture of the *gills* falcate, the covers scaly, of 2 pieces; *lateral line* above, indented; *fins* radiate, short.*Dors.* 14, *pect.* 11, *vent.* 6, *an.* 8, *caud.* 22 rays.*Argenteus*. Brown with yellowish irregular lines.Inhabits *New Zealand*, and islands of the *Pacific Ocean*, in fresh waters; body small, shaped like a trout.*Margina-*
tus. Dorsal and anal fins opposite; lateral line silvery; lower jaw 6 times as long as the upper.Inhabits the *Red Sea*: about a span and half long; body linear, tapering each side, covered with broad, lax, entire scales, above brown, beneath whitish.*Head* narrower than the body, above horizontal; *eyes* vertical, a little remote; *teeth* numerous, erect, rigid, small; *tail* tapering, straight; *pectoral* fins lanceolate; *anal* small, triangular, glaucous, yellowish without; *dorsal* yellow without; *tail* 2-lobed, the upper lobe pale yellow, the posterior edge brown.*D.* 12, *p.* 11, *v.* 6, *a.* 10, *c.* 14 rays.*Brazilienfis*. Lower jaw very long; body serpentine.Inhabits *South America*: tail forked.*Dors.* 12: *pect.* 10: *vent.* 6: *an.* 17: *caud.* 16 rays.*Gymnocephalus*. Jaws equal; gill-covers very obtuse; head naked.Inhabits *India*.*Dors.* 13: *pect.* 10: *vent.* 7: *an.* 26: *caud.* 19 rays.*Tomias*. Four of the teeth much longer than the rest, and projecting from the mouth when shut.*Viper-mouthed P.*

Inhabits

Inhabits the *Mediterranean*: 18 inches long; body greenish-brown.

Lower jaw longer; 2 *fore-teeth* in the upper jaw, and second pair in the lower longer, the latter hooked at the tip; first ray of the *dorsal* fin, which is near the head, very long and setaceous; body gradually tapering downwards; *tail* a little forked.

•*Saurus*. Above and beneath 6 spurious fins near the tail. *Saury P.*

Inhabits *Northern Seas*; 11 inches long; body eel-shaped, growing suddenly slender near the tail; back dusky, belly bright silvery.

Jaws long, subulate, the upper one a little curved, nearly equal; *eyes* large; all the *fins* very small; *tail* deeply forked.

48. ELOPS. *Head* smooth: edges of the *jaws* and *palate* rough with teeth: *gill-membrane* 30-rayed, and armed on the outside in the middle with 5 teeth.

Saurus. Tail armed above and beneath.

Inhabits *Carolina*; body long, and differs from the salmon, wanting the fleshy back-fin.

Head large, smooth, shining, compressed and flattened; *eyes* half covered with the skin of the head; *body* slender, covered with large angular scales; *tail* deeply cleft, with a bony scale or rather spine above and beneath before it.

Dors. 4: *pect.* 17: *vent.* 14: *an.* 3: *caud.* 30 rays.

49. ARGENTINA.

49. ARGENTINA. *Teeth* in the jaws and tongue: *gill-membrane* with 8 rays: *vent* near the tail: *ventral fins* of many rays. *Argentine.*

hyræ. Anal fin with 9 rays.

European A.

Inhabits the *Mediterranean*, and sometimes wanders to the *British* coasts; 2—4 inches long; body round, tapering; back and sides, as far as the lateral line, pale ash mixed with green, below the line and belly fine silvery; the air-bladder is conic both sides, appearing as if covered with silver-leaf, and is used in the manufacture of artificial pearls.

Snout sharp, prominent; *mouth* small, with asperities rather than teeth; *eyes* large, iris silvery; *dorsal* fin placed near the equilibrium of the body; *tail* forked.

Dors. 10: *pect.* 14: *vent* 11: *an.* 9: *caud.* — rays.

odon. Anal fin 8-rayed.

Inhabits the *Red Sea*; body linear, lanceolate, shining, silvery, above brown; scales broad, rounded, entire, striate at the base, and imbricate in longitudinal rows.

Head as broad as the body, compressed, attenuate, naked; *crown* glaucous, a little sloping, flat, with small tubercles between the eyes; *iris* silvery; upper jaw conic at the end, with a black ring, not protractile; *teeth* setaceous, crowded, small, reddish, in many rows: *palate* and *tongue* rough, with teeth; *lateral line* very straight, nearer the back; *fins* glaucous; *tail* bifid, the interstices scaly.

Dors. 16---18: *pect.* 19: *vent.* 10---11: *an.* 8: *caud.* 20 rays.

ina. Anal fin with 15 rays.

Inhabits fresh waters of *Carolina*.

Gill-covers with a longitudinal suture; *tail* straight; *tail* forked.

Dors. 25: *pect.* 16: *vent.* 12: *an.* 15: *caud.* 15 rays.

Machnatai

Machnata. Anal fin with 17 rays.

Inhabits the *Red Sea*: $2\frac{1}{2}$ spans long; silvery, back dusky blueish; scales entire, striate.

Head as broad as the body; *crown* flat, with a very broad sulcus behind broader, oval; *eyes* large, near the crown, iris silvery; *teeth* numerous and very fine; *upper lip* shorter, straight; *gill-covers* naked, very entire; *lateral line* small, in the middle of the body; *dorsal*, *anal* and *tail* fins glaucous, the 2 hind ones beneath yellowish; *pectoral* and *ventral* yellowish whitish behind.

Dors. 1: *pect.* 17: *vent.* 15: *an.* 3: *caud.* 18 rays.

50. ATHERINA. Upper jaw a little flat: gill-membrane 6-rayed: sides with a silvery stripe. *Atherine.*

**Hesperus*. Anal fin with about 12 rays.

Inhabits the *Mediterranean*, *European* and *Red Seas*: 3—4 inches long; back thick, belly a little prominent; body varied with a few black spots, and nearly pellucid.

Crown broad, flat, sloping at the front; *eyes* near the front, iris with a brown spot above; *jaws* with numerous teeth; *lateral line* double, impressed.

D. 8, 12: *p.* 13: *v.* 6: *a.* 16: *c.* 17 rays.

Menidia. Anal fin with 24 rays.

Silver-fish.

Inhabits fresh waters of *Carolina*: body small, pellucid; iris spotted with black.

Teeth numerous on the lips, but none in the jaws or tongue; *lateral line* silvery; *tail* forked.

Dors. 5—10: *pect.* 13: *vent.* 6: *an.* 4: *caud.* 22 rays.

Sikama. Anal fin with 23 rays.

Inhabits the *Red Sea*; a span and half long; body subpellucid; scales rounded, slightly toothed.

Head tapering, depressed, beneath flattened; *crown* flat between the eyes and scaly; *iris* white, above brown; *lips* obtuse, the upper protractile; *teeth* like those of *A. hesperus*; *lateral line* nearer the back; *vent* in the middle of the body; *fins* glaucous; *pectoral* lanceolate.

Dors. 21: *pect.* 16: *vent.* 6: *an.* 23: *caud.* 17 rays.

Japan.

tonica. Dorsal fin single, 5-rayed.

Inhabits *Japan*: 3—4 inches long; smooth, reddish-brown.

Head naked; teeth in the jaws 0; lateral stripe very broad, reaching from the head to the tail.

Dors. 5, pect. 14, vent. 8, an. —, caud. — rays.

ronii. Body subpellucid; lateral stripe broad.

Inhabits *American* and *Pacific* seas.

This is a very vague and indistinct species.

51. MUGIL. Lips membranaceous, the lower one carinate inwards: teeth 0: above the angle of the mouth a hard callus: gill-membrane with 7 curved rays; the covers smooth, rounded: body whitish. *Mullet.*

phalus. First dorsal fin 5-rayed.

Inhabits *European* seas, and enters rivers; back dusky varied with blue and green; sides silvery with broad dusky parallel lines, reaching from the head to the tail; belly silvery; scales arranged in parallel rows. The *Botargo* of the Italians is made of the milts and roes of this fish.

Head almost square, flat on the top; nose blunt; lips thick; in the upper jaw a small roughness; pupil black, encircled with a small silvery line, iris above hazel, below silvery; first dorsal fin near the middle of the back; tail deeply forked.

Dors. 5, $\frac{1}{2}$, pect. 16, vent. $\frac{1}{2}$, an. $\frac{3}{2}$, caud. 12 rays.

bula. First dorsal fin 4-rayed.

Inhabits *America*; very much resembles the last.

Dors. 4, 9, pect. 17, vent. $\frac{1}{2}$, an. $\frac{3}{2}$, caud. 20 rays.

nilabis. First dorsal fin with 4 flexible rays; rays of the second unarmed; lips crenate, the lower bicarinate.

2. Less; lips not crenate.

3. Both lips ciliate, the lower singly carinate.

4. Upper lip very finely ciliate, the lower singly carinate.

Inhabits the *Red Sea*; a foot long; scales broad, with a longitudinal brown keel in the middle.

Head above covered with lax scales; lateral line a little raised; all the fins whitish-glaucous; pectoral with a black spot at the base; lobes of the tail pointed.

Dors. 1, ---, pect. 17, vent. 6, an. 11, caud. 16 rays.

Chilensis. Dorsal fin single; tail simple.

Inhabits the sea round *Chili*, and the rivers which empty themselves into it; about a foot long; in shape and scales resembles *M. cephalus*.

Dors. 1, pect. 12, vent. 6, an. 11, caud. 16 rays.

Chanos. Dorsal fin single; tail with 2 wings each side.

Inhabits the *Red Sea*; a yard long; body oblong, silvery, with soft cirri, but without teeth; scales broad, rounded, finely striate; a variety is found more than as large again.

Head narrower than the body; crown flat, glaucous, naked; upper lip longer, notched in the middle; lateral line recurved near the head and afterwards straight, nearer the back; tail much forked, and furnished towards the middle with 2 membranaceous wing-like appendages each side.

Dors. 14: pect. 16: vent. 11: an. 9: caud. 20 rays.

52. *EXOCOETUS*. Head scaly: mouth without teeth; the jaws connected at each side: gill-membrane 7-rayed: body whitish: belly angular: pectoral fins very large and long, the rays carinate on the fore-part. *Flying-fish.*

**Volitans*. Belly carinate each side.

Inhabits *European*, *American* and *Red* seas, but is chiefly found between the *Tropics*: by means of its long pectoral fins is able to raise itself out of the water, and suspend itself in the air for a short space, till they become dry, which it does for the purpose of escaping from the jaws of predatory fish, and in its flight is exposed to the talons of aquatic birds, hovering over the waters to catch them; a variety is found which does not fly.

Ba

FISHES. ABDOMINAL. 53. Polynemus. 867

Back flat; *scales* large, silvery; *dorsal* fin small and placed near the tail; *tail* forked.

Dors. 14: *pect.* 15: *vent.* 6: *an.* 13: *caud.* 15 rays.

volans. Belly not carinate.

Inhabits the *Spanish* seas, and is very little different from the last.

xiliens. Ventral fins reaching to the tail.

Inhabits *Carolina*: longer than *E. volitans*.

Fins pale, with a blackish band or two; *ventral*, which in the first species hardly reach as far as the vent, nearly touching the tail, the first ray short; first and second ray of the *pectoral* short; lower lobe of the *tail* longer.

Dors. 10, *pect.* 15, *vent.* 6, *an.* 11, *caud.* 20 rays.

53. POLYNEMUS. Head compressed, covered with scales: snout very obtuse and prominent: gill-membrane 5—7-rayed: pectoral fins with distinct appendages.

These are chiefly distinguished from the genus *Trigla*, in having the ventral fins placed on the abdomen, and in the appendages not being articulate.

quinquarius. Appendages 5, longer than the body.

Inhabits *America*.

Dors. 7, 16, *pect.* 16, *vent.* 6, *an.* 12, *caud.* 17 rays.

virginicus. Appendages 7, tail entire.

Inhabits *America*.

Gill-covers serrate; first ray of the first *dorsal* fin very short; *tail* broad, sharp.

Dors. 7, 15: *pect.* 15: *vent.* 6: *an.* 12: *caud.* 15 rays.

paradiseus. Appendages 7, tail forked.

Inhabits *India*.

plebius. Appendages 5, the first extending beyond the tail, the others gradually shortening.

Inhabits the *Pacific Ocean*: body silvery, back ashy, compressed,

fed, oblong, lanceolate; scales squarish oblong, truncate and notched at the base, the tip rounded, smooth, imbricate, composed in 20 longitudinal rows.

Head flattish, the scales on the top and sides obliquely, beneath closely imbricate; *eyes* round, large, covered with a diaphanous skin; *iris* silvery; *mouth* nearly orbicular and large; upper *jaw* longer, both filled with setaceous, subequal teeth, turned inwards; *tongue* smooth, loose only at the tip; *gullet* dilatable at the sides; *palate* flattish, obsoletely wrinkled in the middle, the fore-part rough with small bones; *aperture* of the *gills* large; the anterior and posterior covers diphyllous, the upper lamina of the former slightly serrate, the laminae of the latter obsoletely ciliate; *lateral line* parallel with the back; *vent* nearly in the middle of the body. *fins* ashy, spotted with brown; first *dorsal* nearly triangular, the second subfalcate; *pectoral* oblong; *ventral* trapeziform. *tail* 2-lobed.

Dors. 8, $\frac{1}{2}$: *pect.* 16: *vent.* $\frac{1}{2}$: *an.* $\frac{1}{2}$: *caud.* $\frac{1}{2}$ rays.

54. CLUPEA. *Head* compressed: *mouth* compressed, rough within: *jaws* unequal, the upper with serrate mystaces: *tongue* short, rough, with inverted teeth: *eyes* moderate, round, marginal: *gills* setaceous; the covers 3 or 4 leaved; the membrane 8-rayed: *body* compressed, elongated, covered with moderate scales: *lateral line* straight, near and parallel with the back: *belly* carinate and generally serrate: *ventral* fins often 9-rayed: *tail* forked. Herring.

* *Harengus* Body without spots; lower jaw longer. British H.

Inhabits Northern seas and migrates southerly in immense shoals towards the coasts for the purpose of spawning, and during its journey is followed by numerous predatory fishes; is exceedingly fertile and well-tasted. In the north great quantities of oil are extracted from it. Body green varied with blue, belly silvery; it dies as soon as taken out of the water. Herr.

Head small; *iris* silvery; *tongue* pointed; *gill cover* with a violet or red spot, which disappears when it is dead; *back* convex; *fins* cinereous, and except the *tail* small; *belly* not ferrate.

Dors. 18, *pect.* 18, *vent.* 9, *an.* 17, *caud.* 18 rays.

Pilchardus *Nose* turned up; dorsal fin in the centre of gravity; scales firm. *Pilchard.*

Appears periodically in vast shoals on the *Cornish* coast, about July; body thicker and rounder than the herring, less, the back more elevated and the belly not so sharp; is more full of oil; belly not ferrate.

prattus. Dorsal fin 17-rayed; belly strongly ferrate. *Sprat.*

Inhabits *Northern* seas and migrates like the herring in large shoals; 4—5 inches long; body silvery, back blueish; scales large and easily deciduous; flesh very good, but oily.

Head pointed, blackish on the front; eyes large, iris yellowish-white; lower *jaw* longer, curved; *gill-covers* silvery, radiate; keel of the *belly* curved; *fins* short, thin, cinereous.

Dors. 17, *pect.* 16, *vent* 6, *an.* 19, *caud.* 18 rays.

Mosa. Sides with round black spots placed longitudinally; snout bifid. *Shad.*

Inhabits the *Mediterranean*, *Northern Europe*, *America* and *Asia*: 2—3 feet long; ascends rivers in May and June to spawn, and returns in the autumn; feeds on worms and insects, and is the prey of larger fish; back dusky-blue, or greenish-yellow; scales large, deciduous; flesh sometimes eaten, though not very good.

Head a little sloping; *iris* silvery; upper *jaw* a little shorter, toothed at the edge; *tongue* blackish, loose, smooth; *gill-covers* striate, blueish in the middle, silvery at the edge; *lateral line* hardly conspicuous, nearer the back; *fins* small, cinereous, blueish at the edge; *ventral* with an appendage; *tail* large, with a brown spots.

Dors. 19, *pect.* 15, *vent.* 9, *an.* 21, *caud.* 19 rays.

Encrasiolus. Upper jaw longer. *Anchovy.*

Inhabits *European*, *Mediterranean* and *Atlantic* seas; 6½ inches long; approaches the shores from December to March, for the purpose of spawning; back green, semipellucid; sides of the belly silvery and opaque; belly not ferrate; is gutted, beheaded and potted for a relish.

Head

Head long, above broad; *eyes* round, iris silvery; *mouth* very large, smooth within; lower *jaw* and narrow *tongue* pointed, aperture of the *gills* very large; *back* convex, *fins* short, pellucid.

Dors. 14: *pect.* 15: *vent.* 7: *an.* 18: *caud.* 18 rays.

Atherin-
ides.

Lateral line silvery; lower jaw shorter.

Inhabits *Surinam*. In its broad silvery lateral line it appears to be an *Atherine*, but on account of its compressed body and small ventral fins is with more propriety placed here.

Dors. 12: *pect.* 14: *vent.* 8: *an.* 32: *caud.* 18 rays.

Tiriffa.

Anal fin with 28 rays; last ray of the dorsal long, testaceous.

Inhabits *America*, *India* and *China*; in spawning time frequents the shores; about a foot long; feeds on testaceous animals and the spawn of other fish; body above bluish with a green shade, sprinkled with brownish spots placed in rows; sides shining silvery; sides of the head and fore-part of the belly sea-green; flesh very savory, but is often poisonous.

Head naked, beneath curved and carinate; *mouth* oval; eyes with a doubled nictitant membrane, lateral, round, moderate; *iris* silvery; lower *jaw* a little shorter; *gullet* a little dilatable; *lips* skinny, brownish; *teeth* not perceivable; *tongue* oblong-lanceolate, obtuse, loose at the tip, the base cartilaginous; *palate* flattish, striate with wrinkles; aperture of the *gills* large, flexuous, the covers shining silvery; lateral line hardly visible; *vent* behind the middle of the body; *fins* hoary; *dorsal* and *caudal* a little brownish at the tip.

Dors. 14, *pect.* 13, *vent.* 8, *an.* 28, *caud.* 21 rays.

Cyprina-
ides.

Belly obtuse.

Inhabits between the *Tropics*: body oblong, hardly a foot long, silvery, above greenish-blue; scales smooth, a little striate and convex, disposed in 10 longitudinal rows, and edged with a silvery membrane.

Head broadish, convex on the fore-part and hardly sloping; *eyes* large, lateral, round, the nictitant membrane doubled; *iris* silvery; *mouth* large, nearly square; lower *jaw* a little longer; *chin* dilatable; *teeth* crowded, linear; *tongue* broad, rough in the centre and smooth at the sides, the tip looks like a jaw.

jaws rough within ; aperture of the *gills* large, the covers flexile, very smooth, silvery-brown ; *fins* brown-ash ; last ray of the *dorsal* long ; *anal* long, subfalcate ; *tail* large.

Dors. 17 : *pect.* 15 : *vent.* 10 : *an.* 25 : *caud.* 30 rays.

tirostris. Lateral bones of the upper jaw setaceous ; anal fin with 32 rays.

Inhabits the *Pacific* and *Red* seas ; body lanceolate, silvery, shining, above blueish ; scales obliquely imbricate, smooth, deciduous, obsoletely rhombic.

Head short, slightly curved beneath ; *iris* silvery, above clouded with red ; *mouth* large, nearly quadrangular ; lower *jaw* shorter ; *gullet* dilatable ; *teeth* very short, and unequal in both jaws ; *palate* a little rough ; aperture of the *gills* large, subflexuous, the covers flexile, silvery ; *lateral line* parallel with the back, smooth, straight, obsolete ; *vent* a little behind the middle of the body ; *fins* hoary ; *dorsal* nearly triangular ; *pectoral* oval-lanceolate ; *ventral* lanceolate ; *anal* long ; *tail* 2-lobed.

Dors. 13 : *pect.* 14 : *vent.* 7 : *an.* 32 : *caud.* 70 rays.

lyflus. Body ensiform ; anal fin joined to the tail.

Inhabits the *Indian* sea.

Dors. 13 : *pect.* 17 : *vent.* 6 : *an.* 36 : *caud.* 13 rays.

ropica. Tail wedged.

Inhabits *Ascension Island* ; body white, compressed, broad, ferrate.

Head sloping ; *eyes* large, near the gape of the mouth ; lower *jaw* longer ; *teeth* in one row ; *gill-covers* scaly ; *lateral line* straight, nearer the back ; *dorsal* fin extending from the middle of the back to the tail ; *anal* the same as the dorsal.

Dors. 26 : *pect.* 6 : *vent.* 6 : *an.* 26 : *caud.* 20 rays.

inenfis. Outmost ray of the gill-membrane truncate behind.

Inhabits *China* ; resembles the herring, but is broader.

Mouth without teeth ; lower *gill-covers* or rather the outmost ray of the *gill-membrane* very much truncate.

Dors. 16 : *pect.* 16 : *vent.* 8 : *an.* 16 : *caud.* — rays.

laumela. Body lanceolate, naked ; ventral, anal and caudal fins 0 ; dorsal reaching the whole length of the back ; tail linear.

Inhabits

Inhabits the *Red Sea*; about a yard long; body silvery and finely polished; of an uncertain genus.

Crown flat, rhomboidal; lower *jaw* longer; *teeth* subulate, compressed, strong, remote, perpendicular; *gill-covers* covered with the common skin, without scales, hyaline at the tip; *lateral line* nearer and parallel with the belly, and straight from the breast to the tip of the tail; *dorsal fin* glaucous, edged with brown, and marked with a longitudinal oblong silvery spot; instead of the *anal fin* are 82 spines hid under the skin.

Dors. 133: *pect.* 12: *vent.* 0: *an.* 0: *caud.* 0 rays.

Dorab.

Ventral fins minute; upper lip 2-horned with extended teeth, lower longer; teeth strong, erect.

Inhabits the *Red Sea*; body linear, silvery, above brown or blue; scales entire, deciduous.

Crown horizontal, flat; *nape* blue; *iris* silvery; upper lip not protractile with protruded, remote unequal teeth, the 2 middle ones larger and very sharp; lower *jaw* with 6 erect teeth each side, the middle ones growing sensibly larger and subulate; *lateral line* straight, obsolete, nearer the back; *belly* straight; *dorsal fin* as near again to the tail as the head; *tail* bifid to the very base.

Dors. 17: *pect.* 14: *vent.* 7: *an.* 34: *caud.* — rays.

Villosa.

Lateral line prominent, rough.

Inhabits *Northern seas*.

55. CYPRINUS. Mouth small, without teeth: *gill-membrane* with 3 rays: *body* smooth, generally whitish: *ventral fins* often 9-rayed. *Carp.*

The fishes of this tribe are chiefly inhabitants of fresh waters; afford a palatable and nourishing food; feed on worms, insects, lesser fish, leguminous seeds and fat earth; some of them migrate, and most of them spawn about April or May: *head* compressed; *scales* shining, horny, and generally white; *front* blackish, broad; *back* arched; aperture of the *gills* large, the cover 3-leaved; *nostrils* double; *mouth* round.

lips cartilaginous, and furnished with a thick skin; *tongue* very minute, cartilaginous; *jaws* toothed beneath the gills; bones of the *throat* rough; *intestinal canal* continued from the teeth to the vent; *liver* 2-lobed; *air-bladder* white, shining, round, 2-parted; *ovary* and seminal vessel double; the *males*, and when in full roe the *females*, have hard, white, sharp tubercles on the scales.

A. Bearded.

Barbus. Anal fin 7-rayed; cirri or beards 4; second ray of the dorsal fin serrate each side. *Barbel.*

Inhabits rapid stony rivers of *Europe* and *Persia*, and lies in holes near the banks; lives in societies, and feeds on testaceous animals, worms, lesser fish and carcases; is so tame as to be often taken with the hand; grows fast and is very long-lived; 2—15 feet long; body above olive, the sides above the line blueish, beneath it pale greenish, belly white; scales pale gold-colour, edged with black and striate; flesh coarse, and the roe is a little poisonous.

Head oblong, pointed, pale olive; *iris* pale brown; *nostrils* placed near the eyes; *mouth* placed beneath; *cirri* at each corner of the mouth and each side the nose; upper *lip* thick, red, protractile; *lateral line* straight, dotted with black; *fins* reddish; *ventral* with an appendage; *tail* forked, edged with black; *dorsal* entirely blueish.

Dors. 16: *pect.* 16: *vent.* 9: *an.* 7: *caud.* 16 rays.

Carpio. Anal fin 9-rayed; cirri 4; second ray of the dorsal fin serrate behind. *Carp.*

2. Half the body covered with scales 4-times as large as common, the other half naked.

3. Body without scales.

Inhabits the slow and stagnant waters of *Europe* and *Persia*, and was introduced in *England* in the year 1514; about 4 feet long; grows fast and is very long-lived; feeds on herbs, fat earth, worms and aquatic insects and any soft substance; is extremely fertile, and the prey of larger fish, aquatic birds and frogs; body above blue-green, the upper part of the sides greenish-yellow and blackish, beneath whitish; tail yellow; scales large, longitudinally striate; of the gall is made a green paint, and of the sounds or air-bladder a fish-glue.

Head large; *front* broad, livid; *cheeks* blue; *eyes* black, with a yellow border; *jaws* equal; *lips* thick, yellow, with a longer cirrus in each angle; *back* a little arched, carinate above the fin, and round beneath it; *lateral line* dotted with black, slightly inflected; *dorsal* fin cinereous; *anal* chevron; *pectoral*, *ventral* and forked *tail* violet, the latter blackish at the edge.

Dors. 4, *pect.* 16, *vent.* 9, *an.* 9, *caud.* 19 rays.

• *Gobio*.

Anal fin 11-rayed; *cirri* 2.

Gudgeon.

Inhabits gentle streams and lakes of Northern Europe; is tenacious of life and very fertile; about 8 inches long; feeds on herbs, worms, insects, the fry of other fish and parts of carcases; body narrow, spotted, above livid, the sides above the line blue, beneath whitish-yellow, but it varies its colours by age, the different waters it inhabits and its food; flesh white and very grateful.

Head large, greenish-brown; *eyes* small, pupil livid, iris golden; upper *jaw* a little longer when the mouth is shut; *fins* reddish or yellowish; *dorsal* and *ventral* directly opposite, and with the *anal* spotted with black; *tail* forked.

Dors. 10, *pect.* 16, *vent.* 9, *an.* 11, *caud.* 19 rays.

• *Tinca*.

Anal fin with 25 rays; *tail* entire; *body* mucous; *cirri* 2.

Tench.

2. *Body* golden; *fins* transparent.

Inhabits almost every where in stagnant waters; grows quickly and reaches from 4 to 8 pounds weight; is very fertile and tenacious of life, and will live all the winter under the ice; feeds on worms and water-plants; is very foolish and may be easily caught; body covered with a thick mucus, and small scales which adhere firmly to the skin, above dark-green, the sides above the line green, beneath yellow, belly white; varies in its colours by age, sex, or the waters it inhabits; flesh white, soft and well-tasted.

Head large; *front* broad, dark-green; *eyes* small, iris golden; *cheeks* greenish-yellow; *chin* white; *jaws* equal; *back* slightly arched and round; *fins* thick, violet; *tail* truncate at the angles and straight in the middle; the *scapula* and *ostium natum* are longer than in other fishes; *lateral line* a little curved.

Dors. 10, *pect.* 16, *vent.* 9, *an.* 25, *caud.* 24 rays.

2) *Dors.* 12, *pect.* 16, *vent.* 10, *an.* 9, *caud.* 19 rays.

Barr.

yaxi. Dorsal fin with 13 rays, the third thick and horny; tail linear, bifid, cirri 4.

Inhabits the *Nile*; a cubit long; body entirely silvery, oval-oblong; flesh good.

Head a little compressed; *back* and *belly* sloping; *lateral line* bent upwards, nearer the belly; *anal* and *caudal* fins red, white at the base, the rest whitish, reddish at the thicker edge.

Dors. 13, *pect.* 17, *vent.* 9, *an.* 6, *caud.* 19 rays.

ulatinqi. Anal fin 8-rayed; second ray of the dorsal very large, not serrate; cirri 4.

Inhabits the *Caspian* sea; size of a carp; body steel-blue, with a golden splendor, beneath silvery-golden; scales moderate, semicircular, distant; flesh snowy and exquisite.

Head oblong, above brown, beneath white; eyes moderate, lateral, iris varied with golden and silvery; *lateral line* straight, nearer the belly; *dorsal* fin blackish-brown, the first ray very small, and with the next simple, the rest branched; *pectoral* grey at the base, reddish at the tip; *anal* red, whitish at the base; *tail* forked, reddish-brown.

Dors. 10: *pect.* 19: *vent.* 9: *an.* 8: *caud.* 21 rays.

apeta. Anal fin 9-rayed; third ray of the dorsal and anal very long, the former serrate downwards; cirri 2.

Inhabits the *Caspian* sea, and ascends rivers in the winter; about a foot long; body compressed, oblong; scales rounded, moderate, smooth, striate, silvery, dotted with brown, those on the belly lesser and white.

Head short, very broad, smooth; crown convex, brown; mouth beneath, transverse, small, quadrangular; eyes lateral, iris silvery, above golden-brown; *gill-covers* smooth, brown, punctate; *lateral line* between the pectoral and ventral fins, a little bent down and nearer the belly; fins brown, with darker spots; *dorsal* in the middle of the back, trapezoid, the first ray very short, the second twice as long; *pectoral* oblong, pointed; *ventral* opposite the dorsal, with an appendage above, obtusely trapezoid; *anal* like the ventral; *tail* forked.

Dors. 12—13, *pect.* 17—19, *vent.* 9—10, *an.* 9, *caud.* 19 rays.

Murfa. Anal fin 7-rayed, the first very long; third ray of the dorsal very long and thick, serrate backwards beyond the middle; cirri 4.

Inhabits the *Caspian* sea, and in the spring ascends rivers; about a foot long; body oblong, square, covered with mucus and squarish-rounded golden scales, which are above shaded with brown and beneath whitish.

Head long, conic, a little compressed, smooth; crown convex; eyes lateral, convex, iris yellowish, spotted above with brown; gill covers smooth, brown; lateral line in the middle, straight; anal and ventral fins similar, white, the latter spotted above with brown, the rest entirely brown; dorsal placed in the middle of the back; pectoral oblong; tail vertical, forked.

Dors. 11—12: pect. 16—17: vent. 8: an. 7: caud. 19 rays.

Capito. Cirri 4; third ray of the dorsal fin serrate behind; sides and lower fins whitish.

Inhabits rivers running into the *Caspian* sea; very much resembles the barbel, but is a little more compressed; head longer, broader, and less depressed; snout more obtuse; cirri longer; eyes larger; dorsal fin farther back; colour of the sides and lower fins yellow, and has 47 vertebrae, whereas the barbel has only 44.

B. Tail nearly even at the end.

• **Carassius.** Anal fin 10-rayed; lateral line straight. Crucian

Inhabits *Europe* and *Siberia*, chiefly in deep, stagnant water, and is found even in the *Caspian* sea; is generally kept in fish-ponds; feeds on mud, herbs and worms, grows slowly, and seldom exceeds a pound weight; infested with the larva cyprinacea; body above dusky-green, the sides greenish, beneath varied with white and red; flesh good.

Head small, obtuse, above olive, the sides varied with yellow and green; eyes small, iris silvery, surrounded with a golden ring; each jaw with 5 broad teeth; back carinate before the fin, round behind it; pectoral fins violet, the rest yellow edged with cinereous.

Dors. 20: pect. 12: vent. 9: an. 10: caud. 22 rays.

• **Ocephalus.** Anal fin 11-rayed; body nearly cylindrical. Chub

Inhabit

Inhabits fresh waters of *Europe*: about 5 pounds weight; frequents deep holes of rivers, and is very shy; feeds on worms and insects; body oblong, roundish, above dusky-green, the sides silvery, but in summer yellow, belly white; scales large; flesh coarse and bony.

Head and *cheeks* deep green; *pectoral* fins pale yellow; *ventral* and *anal* red; *tail* a little forked, brownish, tinged with blue at the end.

Dors. 11: *pect.* 16: *vent.* 9: *an.* 11: *caud.* 17 rays.

belia.

Dorsal fin with 20 rays; tail lunulate.

Inhabits stagnant waters of *Germany*, and seldom exceeds half a pound weight; is very fertile, and tenacious of life, and an easy prey to ducks and water-fowl; body broad, elongated, above blueish, the sides obscurer, beneath golden; scales large.

Head large, above brown; *eyes* large, iris golden; *jaws* equal, with 8 small, sharp teeth in each, disposed in 2 rows; *back* arched; *lateral line* dotted with brown, bending down; *fins* yellow, the rays branched; *tail* cinereous.

Dors. 19: *pect.* 15: *vent.* 9: *an.* 8: *caud.* 20 rays.

iceus.

Dorsal fin with 10 rays, anal 11; tail reddish-brown.

Inhabits in great plenty the slow and stagnant waters of *Dauria*; $1\frac{1}{4}$ inch long; body shaped like the crucian, beautifully shining with silvery-blueish or pale violet, towards the belly pale rosy, with a broad greenish-blue stripe each side.

Iris silvery, with a carmine patch above the pupil; *ventral* and *anal* fins cinnabar, tip with black.

C. Tail 3-parted.

ratus.

Anal fin double, placed like the ventral. *Gold-fish.*

This most beautiful fish is an inhabitant of the rivers of *China* and *Japan*, and is naturalized almost every where, on account of its elegance and vivacity; the colours vary greatly, but are naturally and mostly of a most splendid golden; scales large.

Nostrils tubular; *iris* golden; *gill-covers* 2-leaved; *back* convex; *lateral line* straight, nearer the back; *fins* fine red; *tail* 2, 3 or 4-parted.

Dors. 20: *p.* 16: *v.* 13: *a.* 9: *c.* 27 rays.

Baphthal-

Baphthalmus. Scarlet; all the fins white; eyes protuberant.

Telescope Carp.

Inhabits *China*, and is equal in size and beauty to the last; back much armed; tail trifid. *Nat. Miscel. tab. 262.*

D. Tail bifid.

Regius. Anal fin 11-rayed; dorsal reaching the whole length of the back.

Inhabits the sea round *Chili*; nearly the size of a herring; body cylindrical, the scales above golden, on the sides silvery.

Eyes yellowish, pupil blue, iris purple; mouth short, obtuse, without teeth; fins soft yellow; flesh delicious.

Dors. 28: *pect.* 15: *vent.* 10: *an.* 11: *caud.* 21 rays.

Caucus. Anal fin 13-rayed; body tuberoso, a little silvery.

Inhabits fresh waters of *Chili*: $1\frac{1}{2}$ foot long.

Dors. 9: *pect.* 16: *vent.* 9: *an.* 13: *caud.* 29 rays.

Malchus. Anal fin 8-rayed; body conic, blueish.

Inhabits fresh waters of *Chili*: a foot long.

D. 12: *p.* 14: *v.* 8: *a.* 8: *c.* 18 rays.

Julus. Anal fin 10-rayed; tail lobed.

Inhabits fresh waters of *Chili*; a span long.

Dors. 15, *pect.* 17, *vent.* 9, *an.* 10, *caud.* 19 rays.

Rivularis. Anal and dorsal fins 8-rayed; body spotted with brown.

Inhabits small streams running down the *Altaic* mountains; 2 inches long; body a little compressed, subsilvery; scales hardly visible.

Head obtuse, nearly square; the crown with a few hollow pores; iris silvery; lateral line straight, a little ascending at the head; fins pale; pectoral rounded.

Dors. 8, *pect.* 8, *vent.* 8, *an.* 8, *caud.* — rays.

Labeo.

Anal fin 7-rayed, dorsal 8, pectoral 19.

Inhabits in numbers the rapid and stony rivers round *Dan*, which empty themselves into the *Eastern* sea; swims rapidly, and never reaches a yard long; body roundish, compressed, coated with large scales; flesh very fine.

Head thick ; *snout* conic, obtuse, a little fleshy ; *mouth* placed under the snout, something like that of the sturgeon ; *eyes* rather large, iris silvery-yellow ; *pectoral*, *ventral* and *anal* fins red ; *tail* brown ; first ray of the *dorsal* strong, bony.

Dors. 8, *pect.* 19, *vent.* 9, *an.* 7, *caud.* — rays.

Leptocephalus. Anal fin 9-rayed, dorsal 8.
Inhabits with the last and is about the same size ; scales middle-sized.

Iris yellowish-silvery ; *snout* much lengthened, depressed, rounded ; lower *jaw* longer ; *fins*, except the dorsal, red.

Dors. 8 : *pect.* 20 : *vent.* 10 : *an.* 9 : *caud.* — rays.

halcoides. Anal fin 19-rayed, dorsal 12.

Inhabits the *Caspian* sea, and in pairing time ascends rivers ; hardly a foot long ; body compressed, oblong ; scales rounded, striate, above greyish and greenish-silvery, spotted with brown, the sides shining silvery, beneath milk-white.

Head compressed, pointed ; *front* and *crown* greenish-brown ; *eyes* lateral, very moveable, iris silvery, above golden and spotted with black, beneath with a blood-red mark ; *jaws* without teeth, the lower longer ; *tongue* oblong, fixed, white, smooth, cartilaginous ; *palate* smooth ; *gill-covers* flat, smooth, shining silvery ; *back* a little convex ; *lateral line* curved downwards, nearer the belly, with about 70 whitish elevated points ; *dorsal* fin in the middle of the back, brownish, the second ray very long ; *pectoral* white, oblong, pointed, the first ray very large and brown ; *ventral* rounded, white, with a lanceolate appendage ; first ray of the *anal* very short, third very long ; *tail* perpendicular, brown.

Dors. 12 : *pect.* 16 : *vent.* 9 : *an.* 19 : *caud.* 19 rays.

alian. Anal fin with 7, dorsal 8, pectoral 14 rays.

Inhabits stony rivers in *Siberia* ; 3 inches long ; body olive spotted with brown, beneath bright red ; scales small, rounded, adhering firmly to the skin ; is very good when fried.

Head short, nearly conic ; *crown* blackish ; *eyes* lateral, iris silvery ; *jaws* blood-red at the edge, the lower a little longer ; *lateral line* curved, nearer the belly than in others of its tribe ; *fins* with branched rays, red at the base, whitish in the middle, and tipped with brown ; *tail* and quadrangular *dorsal* fin black at the base, in other parts whitish dotted with black.

Dors. 8 : *pect.* 14 : *vent.* 8 : *an.* 7 : *caud.* 19 rays.

Niloticus:

- Nilotus*. Anal fin with 7, dorsal 18 rays.
Inhabits the Nile; body reddish.
Dors. 18: pect. 17: vent. 9: an. 7: caud. 19 rays.
- Gonorynchus*. Anal fin 8-rayed; body cylindrical.
Inhabits the Cape of Good Hope.
Dors. 12: pect. 10: vent. 9: an. 8: caud. 18 rays.
- *Phoxinus* Anal fin with 8 rays; tail with a dusky spot near the base; body pellucid. Mizra.
Inhabits small gravelly streams of Europe and Siberia, and keeps in shoals, near the surface; hardly 3 inches long; feeds on herbs and worms; grows slowly, is very fertile, and a favourite food of pikes; body roundish, mucous, above black or dark blue, the sides with alternate blue, yellow and black streaks, but varies much in its colours; scales ~~small~~ thin; flesh excellent.
Head wedged, above dusky-green; eyes small, iris golden; jaws equal, red at the edge; gill-covers yellow; back and lateral line straight; fins cinereous, with a red spot at the base.
Dors. 8: pect. 15: vent. 8: an. 8: caud. 19 rays.
- Aphya*. Anal fin 9-rayed; iris red; body pellucid.
Inhabits in shoals the shores of the Northern European seas, and the rivers flowing into them; $1\frac{1}{2}$ — $4\frac{1}{2}$ inches long; body long, thick, round, above brownish, the sides whitish beneath the line, belly white or red; scales moderate, deciduous.
Upper jaw a little longer when the mouth is shut; iris yellow, encircled with red; lateral line in the middle, straight; fins cinereous, greenish at the base.
Dors. 10: pect. 12: vent. 7: an. 9: caud. 19 rays.
- *Leuciscus* Anal fin 10, dorsal 9-rayed. Dait.
Inhabits deep still rivers of England, France, southern Germany, Italy and Siberia; from 6 inches to $1\frac{1}{2}$ foot long; feeds on worms and insects; is very fertile, and the prey of the more rapacious fish; by dusky yellowish-green, sides and belly silvery; scales moderate; flesh white and good.
Head small; iris yellowish; mouth large; gill-covers 2-leaved; lateral line curved, nearer the belly; back convex; whitish.

*2. Body slenderer ; back straighter. Graining.

Found in the *Mersey* near *Warrington* : has a great resemblance to the dace, back silvery, with a blueish cast ; eyes, ventral and anal fins red, but paler than those of the dace ; pectoral redder ; $7\frac{1}{2}$ inches long.

Dors. 9 : *pect.* 15 : *vent.* 9 : *an.* 10 : *caud.* 18 rays.

Obula. Dorsal and anal fins 10-rayed.

Inhabits fresh water lakes of *Denmark*, *Germany* and *France* ; 10 inches long, and in the spring ascends rivers ; feeds on leeches, other worms and herbs ; body narrow, oblong, above greenish, beneath blueish-silvery ; the younger male in milking-time is spotted with black ; scales moderate, dotted with black at the edge.

Head obtuse, broad above, black-ash ; *iris* yellow, with a green spot above ; *jaws* with 2 rows of hooked teeth ; *back* round ; *lateral line* bent down, dotted with yellow ; *fins* in the younger fish white, when full grown *ventral* and *anal* red ; *pectoral* yellow ; *dorsal* greenish ; *tail* blueish.

Dors. 10 : *pect.* 15 : *vent.* 9 : *an.* 10 : *caud.* 19 rays.

Blagius. Anal fin 11-rayed ; fins whitish.

Inhabits *European* lakes ; oblong, *iris* silvery ; is probably a variety of the last or the same fish.

Dors. 11 : *pect.* 11 : *vent.* 9 : *an.* 11 : *caud.* — rays.

Idarus. Anal fin 12-rayed ; ventral fins deep red.

Inhabits lakes of *Sweden* ; resembles *C. idus*.

Dors. 10 : *pect.* — : *vent* — : *an.* 12 : *caud.* 19 rays.

Rutilus. Anal fin 12-rayed, reddish. Roach.

Inhabits deep still rivers with a sandy bottom, and is sometimes found in the *Caspian* sea ; keeps in shoals ; seldom weighs more than $1\frac{1}{2}$ pound ; spawns in May and is very fertile ; the eggs are greenish and become red by boiling ; feeds on worms and herbs ; body greenish-black, beneath paler ; scales large and easily deciduous ; flesh white and good.

Jaws equal, each with a row of 5 teeth compressed at the sides and bent in at the tip ; *lips* red ; *lateral line* bent down, with 36 dots ; *ventral* and *anal* fins blood-red, the rest chestnut ; *dorsal* opposite the ventral.

D. 13 : *p.* 15 : *v.* 9 : *a.* 12 : *c.* 17 rays.

Idus.

Anal fin 13-rayed, red.

Inhabits fresh clear waters of *Northern Europe*, chiefly in larger lakes, from whence it migrates up rivers in the spring, and is sometimes found in the *Caspian Sea*: $1\frac{1}{2}$ —2 feet long; is fertile and will live long out of the water; feeds on worms and herbs; body thick, coated with large scales, above black, beneath white, the sides above the line bluish, beneath yellowish-white; flesh tender and white.

Head thick, truncate; front and nape black; cheeks bluish-yellow; eyes moderate, iris whitish-yellow; mouth small, without teeth; upper jaw longer; back convex, a little arched; lateral line bent beneath the head; fins with most of the rays branched; dorsal opposite the ventral, and with the broad lunate tail cinereous; pectoral yellowish; ventral with an appendage, pointed, red in the middle, the sides and base white; anal red, white at the base.

Dors. 10: pect. 18: vent. 10: an. 13: caud. 19 rays.

• *Orfus.*

Anal fin 13-rayed; gill-covers spotted with red.

Finscale. Red.

Inhabits clear streams of *England, Russia and Germany*; feeds on worms, insects, fat earth and the spawn of other fish; body above saffron, sides and belly gold, with red marks; scales large.

Head small; cheeks silvery; iris golden; upper jaw longer; back much arched; lateral line much curved; fins red; tail forked.

Dors. 10: pect. 11: vent. 9: an. 13: caud. 22 rays.

Buggenhagia.

Anal fin with 19 rays.

Inhabits lakes of *Germany and Sweden*: 12—14 inches long; body above blackish, compressed at the sides; scales large, silvery; flesh white.

Head and mouth small; nape with a transverse hollow; upper jaw longer; back arched, carinate; lateral line bent towards the belly and afterwards straight; fins at the base and edge blue; ventral with an appendage; anal lunate; tail forked.

• *Erythrophthalmus.*

Anal fin 15-rayed; fins red.

Red Eye.

Inhabits fresh waters of *Northern Europe and the Caspian Sea*: about 12 inches long; back greenish-black, sides green above the line, silvery beneath; is very fertile and feeds on worms, insects and aquatic herbs; scales large, thin, silvery; flesh good in summer.

Red.

Head small, obtuse on the fore-part ; *iris* red ; *jaws* equal, the lower curved ; *teeth* serrate, incurved, in 2 rows ; *nostrils* large ; *back* carinate before the fin, convex behind it ; *lateral line* inclining down from the nape, with 30 elevated spots each side ; *dorsal fin* greenish, farther from the head than the ventral, edged with red.

Dors. 12 : *pect.* 16 : *vent.* 10 : *an.* 15 : *caud.* 20 rays.

ses.

Anal fin with 14 rays ; snout rounded.

Inhabits the most rapid parts of rivers in *France*, *Germany*, *Hungary* and *Russia* ; swims with great swiftness and is exceedingly fertile ; grows but slowly ; body above blue, paler at the sides ; scales large, blue at the lower edge.

Head thick, truncate ; *front* broad, blackish ; *eyes* large, pupil glaucous, *iris* yellow ; *gill-covers* blue ; *lateral line* nearly straight, with 58 yellow-brown dots ; *ventral*, *pectoral* and *anal fins* pale violet, the former with an appendage ; *dorsal* blueish, farther back than the ventral ; *tail* broad, a little forked, cinereous, edged with blue.

D. 11, *p.* 16, *v.* 9, *a.* 14, *c.* 20 rays.

ifus.

Anal fin with 14 rays ; snout prominent.

Inhabits the larger lakes of *Prussia*, *Germany* and *Italy*, and the *Caspian Sea* ; ascends rivers in shoals in the spring ; from 1 to 2 pounds weight ; feeds on worms and herbs ; body oblong, above blackish, beneath silvery, belly black within ; scales large ; flesh soft and palatable.

Nape broad, black ; *eyes* large, *iris* silvery-golden ; *mouth* beneath, transverse, small, quadrangular ; upper jaw longer, obtuse at the end, 6 teeth in each ; rays of the fins divided at the tip into 8 ramifications, the upper ones blackish, lower reddish ; *tail* forked.

Dors. 12 : *pect.* 16 : *vent.* 13 : *an.* 14 : *caud.* 22 rays.

pius.

Anal fin 16-rayed ; lower jaw longer, incurved.

Inhabits fresh and gentle streams of *Northern Europe* and in the *Caspian Sea* ; grows to 12 pounds weight ; body above blackish, the sides blueish-white ; grows fast, and feeds on herbs, worms, and lesser fish ; scales blue at the lower edge ; flesh white, soft, fat and well-tasted.

Head wedged, small ; *nape* broad, blueish-black ; *iris* yellow, streaked with greenish on the upper-part ; *mouth* large ; each jaw with 8 teeth, in 2 rows ; *back* convex ; *lateral line* as in *C. jesus* ; *dorsal* and *caudal fins* blue, the rest blueish tinged with red.

Dors. 11 : *pect.* 20 : *vent.* 9 : *an.* 16 : *caud.* 20 rays.

5 U 2

Bipunc-

Bipunctatus.

Anal fin with 16 rays; lateral line red, with black spots in a double row.

Inhabits sandy or stony rivers of *Germany*; is very small, and swims near the surface, except when in full roe; feeds on herbs and worms; body above dusky-green, the sides greenish-white; scales small, dotted with black; flesh white and well-tasted.

Eyes large, iris yellow, with a greenish spot above; cheeks silvery-blueish; upper jaw a little prominent; back arched; lateral line bent downwards; upper fins greenish, lower reddish.

Dors. 10: pect. 13: vent. 8: an. 16: caud. 20 rays.

Amarus.

Pectoral and ventral fins with 7 bony rays.

Inhabits clear streams of *Germany*; about 2 inches long; body pellucid, silvery, above greenish-yellow, the sides above the line yellow; scales moderate, dotted with black; flesh bitter.

Head small, wedged; eyes small; iris above red, beneath yellow; jaws equal; gill-covers yellowish; back carinate before the fin, convex behind it; lateral line bent down near the nape, blackish, steel-blue near the tail; upper fins reddish, lower greenish.

Dors. 10, pect. 7, vent. 7, an. 11, caud. 20 rays.

Americanus.

Anal fin with 18 rays.

Inhabits *Carolina*: body blue, silvery.

Lateral line arched towards the belly; tail bifid.

Dors. 9, pect. 16, vent. 9, an 18, caud. 27 rays.

**Alburnus*

Anal fin with 20 rays.

Bisai.

Inhabits, in shoals, fresh rivers of *Europe* and the *Caspian Sea*: 4—10 inches long; is infested by a species of gordius or hair-worm, that at certain seasons it seems to be in great agonies, tumbling about near the surface of the water, incapable of swimming far from the place; body above olive, sides and belly silvery; scales thin, shining, deciduous, and are used in the manufactory of artificial pearls; flesh white and good.

Head pointed; front flat, olive, spotted with black; cheeks blue; eyes large, pupil blue, iris silvery; lower jaw longer; back nearly straight; fore-part of the belly broad; lateral line crooked; pectoral fins white, powdered with reddish; anal cinereous; caudal and dorsal greenish, the latter further back than the ventral.

*2. Lateral

*2. Lateral line straight. *White bait.*

Inhabits, in vast shoals, during the month of June, the river *Thames*; about 2 inches long.

Pupil black, *iris* silvery; lower *jaw* longer; *head*, *sides* and *belly* silvery; *back* tinged with green; *dorsal* fin nearer the head than the tail, and with about 14 rays; *tail* forked, the tips black.

Dors. 10, *pect.* 14, *vent.* 9, *an.* 20, *caud.* 18 rays.

3a. Anal fin with 24 rays; snout truncate, prominent.

Inhabits the *Baltic Sea*, and migrates in summer into the rivers of northern *Europe*; feeds on herbs and worms; body silvery, above blueish; scales small; flesh excellent.

Head small, wedged; *eyes* large, *pupil* blueish, *iris* above straw-colour, beneath greenish; *mouth* a little rounded; *back* convex, carinate before the fin; *lateral line* bent down, dotted with yellowish.

Dors. 11, *pect.* 16, *vent.* 11, *an.* 24, *caud.* 19 rays.

ama. Anal fin 27-rayed; fins brown. *Bream.*

Inhabits lakes and still rivers of *Europe*, and in the *Caspian Sea*; 2—2½ feet long; feeds on herbs, worms and fat earth; in the spring approaches the shores, or makes its way up rivers in great shoals, and with a rushing kind of noise; grows very fast; body above blackish, the sides varied with yellow, white and black; scales large; flesh insipid.

Head truncate; *front* livid; *cheeks* blueish-yellow; *chin* reddish; *mouth* small; upper *jaw* a little prominent; *iris* pale yellow, spotted with black, and with a semilunar black spot above; *back* carinate, arched; *lateral line* bent down, with about 50 black dots; *dorsal* fin and *lunate tail* livid; *pectoral* above violet, beneath yellow, blackish at the edge; *ventral* with an appendage, violet at the base; *anal* cinereous at the base, blackish at the edge.

Dors. 12: *pect.* 17: *vent.* 9: *an.* 27: *caud.* 19 rays.

stratus. Anal fin 30-rayed; lateral line sloping; belly very sharp.

Inhabits near the banks of fresh water rivers in *Sweden*, *Prussia* and *Germany*; 1½ foot long; above grey, beneath silvery; scales large, thin, 5-rayed, and easily falling off; flesh white.

Head compressed, small, with a tubercle above the mouth; *cheeks* yellowish-white; *nape* broad, steel-blue; *eyes* large, *iris* silvery; *mouth* without teeth, but in other respects resembling the herring; lower *jaw* longer, arched; *back* straight, roundish; *belly* sharply carinate; *lateral line* beginning

ning behind the gill-cover, curved down in an obtuse angle at about an inch distance, and proceeding to the tail in a serpentine curve; upper fins cinereous, lower reddish beneath, above cinereous; pectoral very long; tail forked.

Dors. 8: *pect.* 16: *vent.* 8: *an.* 30: *caud.* 19 rays.

Björkna. Anal fin with 35 rays.

Inhabits the lakes of Sweden; 5 inches long.

Dors. 11: *pect.* 15: *vent.* 9: *an.* 35: *caud.* 19 rays.

Pareus. Anal fin with 37 rays; iris yellow.

Dors. 11: *pect.* 18: *vent.* 10: *an.* 37: *caud.* 19 rays.

Ballerus. Anal fin with 40 rays.

Inhabits the lakes of Europe, and the Caspian Sea; about a pound weight; grows slowly; body thin, above dusky-blue, the sides yellowish, beneath silvery, belly reddish; scales small, lax; flesh insipid.

Head small, obtuse; front brown; cheeks and gill-covers alternately blue, yellow or red; eyes large, iris yellow with 2 black spots; jaws equal, the lower curved; back carinate; lateral line straight, with brown dots; fins edged with blue; dorsal farther back than the ventral; anal very broad; tail lunate.

Dors. 10: *pect.* 17: *vent.* 9: *an.* 40: *caud.* 19 rays.

Latus. Very broad; anal fin with 25 rays.

Inhabits, in great shoals, the lakes and still rivers of northern Europe: is very fertile, and feeds on worms and herbs; about a pound weight; body thin, white, above blueish; scales thin; flesh insipid.

Head small, lengthened; iris yellow, dotted with black; mouth very narrow; back arched, carinate before the fin, and round behind it; lateral line curved, dotted with yellow; pectoral and ventral fins red; dorsal farther back than the ventral, and with the anal brown, edged with blue; tail blue, forked.

Dors. 12: *pect.* 15: *vent.* 10: *an.* 25: *caud.* 22 rays.

ORDER

ORDER V. BRANCHIOSTEGOUS.

Gills without bony rays.

56. MORMYRUS. *Head smooth: teeth numerous, notched: aperture of the gills linear, without a cover: gill-membrane with one ray: body scaly.*

Myprino-
ides.

Tail bifid, appendaged.

Inhabits the Nile.

Dors. 27: pect. 9: vent. 6: an. 32: caud. 19 rays.

anguil-
oides.

Tail bifid, obtuse; dorsal fin with 26 rays.

Inhabits the Nile.

Dors. 26: pect. 10: vent. 6: an. 41: caud. 10 rays.

annume.

Tail bifid, obtuse; dorsal fin with 63 rays.

Inhabits the Nile; body whitish and very much compressed.

Aperture of the gills perpendicular; snout conic, deflected; lower lip longer; belly straight, but rising from the vent; lateral line straight, in the middle of the body; tail and dorsal fin linear.

Dors. 63, pect. 15, vent. 6, an. 17, caud. 20 rays.

57. OSTRACION.

57. OSTRACION. *Teeth* round, pointing forwards, blunt: aperture of the gills linear; *body* mailed by a complete bony covering; *ventral* fins 0.

Triqueter. Body triangular, unarmed.

Inhabits *India*; back appearing as if covered with rhombic marks cut transversely.

Dorsf. 10: *pect.* 12: *an.* 10: *caud.* 10 rays.

Trigonus. Triangular; subcaudal spines 2; dorsal fin 14-rayed.
Inhabits *India*.

Dorsf. 14: *pect.* 10: *an.* 9: *caud.* 7 rays.

Bicaudalis. Triangular; subcaudal spines 2; dorsal fin 10-rayed.
2. Body covered with spots and tubercles.

Inhabits *India*; is probably only a variety of *O. trigonus*.

Dorsf. 10, *pect.* 12, 2) 11, *an.* 10, *caud.* 10 rays.

Tricornis. Triangular; frontal spines 2; dorsal 1.
Inhabits *India*.

Quadricornis. Triangular; frontal and subcaudal spines 2.
Inhabits *India* and *Guinea*.

Dorsf. 10: *pect.* 11: *an.* 10: *caud.* 10 rays.

Turritus. Nearly quadrangular; eyebrows and back with a single spine, belly with 4 each side.

Inhabits the *Red Sea*; 4 inches long; body tuberculate, yellowish-ash, brown on the naked parts.

Bony coat divided into hexagonal pieces, rough, with numerous elevated dots, the sutures pellucid; shell of the body very broad, flat, oval, tapering on the fore-part, and obtuse behind; back convex, marginate at the sides, the middle gibbous, compressed, triangular, with an erect short spine turned back; front perpendicular, rounded, convex, depressed between the eyes; iris golden.

Dorsf. 9: *pect.* 10: *an.* 9: *caud.* 10 rays.

Ceratodus

Cornutus. Quadrangular, frontal and subcaudal spines 2.
Inhabits *India*.
Dors. 9: *pect.* 10: *an.* 9: *caud.* 10 rays.

Auritus. Brown; spines 1 over each eye, 2 each side the back and 2 each side the belly.
Inhabits the islands of the *Pacific Ocean*.
Nat. Miscel. tab. 338.

Tubercula- Quadrangular, unarmed; dorsal tubercles 4.
tus. Inhabits *India*.

Gibbosus. Quadrangular, unarmed, gibbous.
Inhabits *Africa*; is probably a variety of *O. triqueter*.

Cubicus. Quadrangular, unarmed; sides flattish
Inhabits *India*; body spotted.
Dors. 9: *pect.* 10: *an.* 10: *caud.* 10 rays.

Meleagris. Somewhat square; blackish, speckled with white.
Inhabits the *Southern Ocean*; 6—8 inches long; beautifully marked with innumerable white spots.
Nat. Miscel. tab. 253.

58. TETRODON. *Jaws* bony, extending, divided at the end: aperture of the gills linear: *body* muricate beneath: *ventral* fins 0.

Sceleratus. Quadrangular; head very large.
Inhabits the *American* and *Pacific* oceans; 2—2½ feet long; the flesh is poisonous.

Testudineus Belly flat, smoother; back with white, curved sutures.
Inhabits *India*; body above a little rough, beneath with small punctures, within which are secreted short prickles,
Dors. 6: *pect.* 14: *an.* 6: *caud.* 9 rays.

Lagocephalus. Belly inflated prickly; body smooth; shoulders prominent.

Dors. 10, *pect.* 18, *an.* 8, *caud.* 10 rays.

Lineatus. Body with longitudinal brown and pale stripes.

Inhabits the *Nile*, and grows to a vast size; if handled when just taken out of the water, its prickles sting the skin, and produce small pustules like the nettle; body square, without scales, but prickly on the back, punctured beneath and smooth on the sides; above blueish-green, beneath reddish-yellow, the sides blueish-brown, with 4 stripes each side, the 2 upper ones curved, the third divided like the letter V, and the lowest white.

Front straitened, smooth, with 2 contiguous tubercles before the eyes, terminating in 2 short cirri; *iris* golden; *lips* thick, lax, papillous within; *fore-teeth* broad, 2 in each jaw, the lower ones notched; *tail* entire.

Dors. 11: *pect.* 18: *an.* 9: *caud.* 11 rays.

Electricus. Spotted with red, green and white; above brown, beneath sea-green, the sides yellow; fins green.

Inhabits *St. John's Island*, in holes of coral rocks; 7 inches long; gives a sort of electric shock when handled.

Eyes large, *iris* red, tinged with yellow at the outer edge

Ocellatus. Before the dorsal fin a black ocellate band.

Inhabits fresh waters of *China* and *Japan* and the neighbouring seas; body thick, spherical, above dusky-green, beneath white, prickly on the breast and belly; is so exceedingly poisonous, if eaten, as to destroy life in a few hours.

Head small, above broad, a little compressed at the sides; *eyes* small, *iris* golden; *jaws* equal; *lips* moveable; *tongue* short, roundish; aperture of the *gills* semilunar; *lateral line* originating before the eyes, bent round them, and afterwards parallel with the back; *back* round, smooth, with a semilunar black band, edged with yellow, and a similar spot adjoining the fin; *vent* near the tail; *fins* short, yellowish, with branched rays; *tail* smooth, rounded.

Dors. 14: *pect.* 18: *an.* 12: *caud.* 7 rays.

Spengleri. Head bearded with numerous cirri.

Honckenii. Lower jaw longer.

Otolaryx.

oblongus. Oblong ; jaws equal.

2. Back with 6 brown bands.

Inhabits *India* ; feeds on testaceous animals ; body nearly covered with minute prickles, above varied with brown lines, the sides silvery is probably a species of *Diodon*.

Head long, above broad ; *eyes* vertical, iris yellow ; between the eyes and lips a white, round spot ; *nostrils* double ; aperture of the *gills* large, the cover pointed downwards ; *back* convex ; *lateral line* double, the upper beginning behind the eye, bent down, near the back, and reaching to the tail ; the lower beginning from the chin, near the belly, and bent up at the *pectoral* fins ; *fins* yellow-ash, the rays branched.

Dors. 12 : *pect.* 16 : *an.* 11 : *caud.* 19 rays.

2) *D.* 11 : *p.* 18 : *a.* 9 : *c.* 7 rays.

Rostratus. Jaws elongated into a snout.

Inhabits *India* : body white, cinereous towards the back, compressed at the sides, and prickly on the back and fore-part of the belly.

Front sloping, broad ; *eyes* large, vertical, iris reddish, surrounded with brown rays ; *jaws* equal, marked with brown rays ; *fins* yellowish, with branched rays ; *tail* brown at each end ; *pectoral* short, broad.

Dors. 9, *pect.* 16, *an.* 8, *caud.* 10 rays.

* *Lavigatus*. Belly dilatible and prickly before the anal fin. *Globe T.*

Inhabits *Europe* and *Carolina* : 1—2 feet long ; body above blue, the sides and belly white ; it has the power of inflating its belly to a large and globular size when alarmed, and erecting its prickles.

Iris white, tinged with red ; *back* straight ; *dorsal* fin placed low down on the back, the *anal* opposite ; *tail* almost even, divided in the middle by an angular projection ; *fins* brown.

Dors. 15, *pect.* 18, *an.* 12, *caud.* 11 rays.

Hispidus. Body entirely covered with pale setaceous prickles.

2. Body spotted.

Inhabits *India* ; belly dilatible.

Dors. 9 : *pect.* 17 : *an.* 10 : *caud.* 10 rays.

* *Mola*. Unarmed, rough, compressed, rounded ; tail very short and rounded ; dorsal and anal fins connected ; sphericles oval.

5 X 2

Short Sun-fish.

*2. Unarmed,

- *2. Unarmed, smooth, compressed, oblong; tail very short; anal and dorsal fins connected; spiracles crescent-shaped.

Oblong Sun-fish.

Inhabits *European* and *Mediterranean* seas; grows to a vast bulk, sometimes to 4—500 pounds weight, yet seldom exceeds $1\frac{1}{2}$ foot in length; has the resemblance of a fish cut off in the middle; body carinate each side; back black, sides silvery, beneath white; skin thick, mucous, rough.

Eyes orbicular, furnished with a nictitant membrane; *nostrils* small; *teeth* in the lower jaw 18, unequal, obtuse, compressed; *tail* surrounded with a circular band before the fin; *fins* black.

Dors. 17: *pect.* 14: *an.* 17: *caud.* — rays.

59. DIODON. *Jaws* bony, extended, undivided: aperture of the *gills* linear: *body* covered on all sides with long, strong, moveable spines, varied with white and black, hollow within, and covered with the common skin: *ventral* fins 0.

Hystrix. Nearly spherical; spines triangular.

2. Somewhat round; spines shorter, triangular.
3. Roundish; spines triangular at the base.
4. Conic oblong, spines long, a little rounded.

Inhabits the *Indian* and *American* seas; grows to 2 feet long: body oblong, pale brown; has the power of erecting and depressing its spines, and of inflating or contracting its body, flesh hard and rank.

Head small; *eyes* large, iris yellow; *fins* short, spotted with black, the rays branched; *dorsal* and *anal* opposite.

Dors. 14: *pect.* 22: *an.* 12: *caud.* 10 rays.

Atinga. Oblong; spines round.

2. Spines of the head and neck longer.

Inhabits the *American* seas and round the *Cape of Good Hope*; 12—15 inches long; body compressed at the sides, bluish, back broad, round, blackish; belly broad, long, white, every

where spotted with black ; has, like the last, a power of dilating its body and erecting its spines.

Head small, above broad, a little compressed at the sides ; *eyes* large, iris yellow ; *nostrils* simple, tubular ; *mouth* narrow ; upper *jaw* a little longer, angular in the middle ; *fins* yellow, spotted with black, brownish at the edge, the rays branched.

Dors. 14 : *pect.* 22 : *an.* 14 : *caud.* 9 rays.

a.

Vertically semioval, nearly truncate behind ; belly carinate ; dorsal, anal and caudal fins united.

Inhabits the *Atlantic* and *Ethiopian* seas ; body compressed, thicker at the head, truncate behind, and terminating in a longitudinal thin fin, silvery white, growing gradually darker towards the back.

Eyes deep in the orbits with 2 spines above each of them, iris silvery ; *mouth* prominent ; *snout* with moveable hooked bones ; *chin* with 2 large spines, and between these and the tail 4 others, all conic and very sharp ; *back* a little arched, with 2 large spines and 3 varicose tubercles ; ridge of the *belly* with 2 large spines on the fore-part, and 1 on the hind-part ; *sides* with 2 sharp, distant papillæ.

60. SYNGNATHUS. *Head* small : *snout* nearly cylindrical, long, turned up at the end : *mouth* terminal, without teeth or tongue, and furnished with a lid ; the lower jaw moveable : *gill-covers* large, striate, closed : *spiracle* on the nape, tubular : *body* jointed, mailed with many-sided scales ; *ventral fins* 0. *Pipe-fish.*

These inhabit the *Ocean*, near shores ; feed on lesser worms and insects, and the spawn of other fish ; under the tail, commencing at the vent, is a longitudinal groove, concealing the young and the eggs ; *eyes* small, covered at the sides with a membrane ; *nostrils* near the eyes, and hardly conspicuous ; *palate* smooth ; *gill-membrane* thin, placed on the nape ; *fins* small, thin, the rays undivided ; *lateral line* 0.

Tetra-

Tetragonus Caudal fin o; body quadrangular; tail 6-sided on the fore-part, triangular behind, the tip round.

Inhabits the *Indian* sea; body brown at the sides, beneath varied with brown and yellow.

Iris yellow; above the eyes each side a recurved spine, and a flat hollow between them; *snout* compressed each side; *trunk* with 17 plates, paler in the middle, triangular at the beginning, above narrow, beneath broad and sometimes with cussate bands; *fins* yellowish; *tail* with 45 plates.

Dors. 34: *pect.* 21: *an.* 6.

•*Typhle.* Caudal, anal and pectoral fins radiate; body 6-sided.

Shorter P.

Inhabits northern *European* seas: about a foot long; body yellow varied with brown; is perhaps only a variety of the next.

Snout slender, subcompressed; *iris* yellow; *trunk* with 18 plates, *tail* with 36; *vent* nearer the head; *fins* cinereous.

Dors. 38: *pect.* 12: *an.* 5: *caud.* 10 rays.

•*Acus.* Caudal, anal and pectoral fins radiate, body 7-sided.

Needle-fish.

Inhabits the northern *European* ocean; 2—3 feet long; body varied with alternate brown and whitish-yellow bands.

Trunk with 20 finely striate plates; *tail* quadrangular, with 43; *vent* nearer the mouth, and placed opposite the beginning of the *dorsal* fin which is spotted.

Dors. 38: *pect.* 14: *an.* 6: *caud.* 10 rays.

Pelagicus. Caudal and pectoral fins radiate, anal o; body 7-sided.

2. Plates of the trunk 25, of the tail 32; dorsal fin with 33 rays.

Inhabits the *Cape of Good Hope* and *Caspian Sea*: body yellow-brown, with transverse brown lines; is generally found swimming among sea-weed.

Iris white; lower jaw longer; plates on the trunk 18, on the tail 32; pectoral fins lead-colour; dorsal and caudal yellow.

Dors. 26, *pect.* 14, *an.* 4, *caud.* 7 rays.

Aequoreus. Caudal fin radiate; pectoral and anal o; body angular.

Inhabits

FISHES. BRANCHIOSTEGOUS. 60. Syngnathus. 895

Inhabits the *Ocean*.

Dors. 30, *pect.* 0, *an.* 0, *caud.* 5 rays.

Ophidion. Caudal, anal and pectoral fins 0 ; body round. *Little P.*

Inhabits the northern *European* ocean: 1–2 feet long ; body greenish, smooth with a few protuberances, and marked with 4 interrupted blue lines and rings.

Iris reddish ; *snout* short ; *vent* nearer the head.

Dors. 34 : *pect.* 0 : *an.* 0 : *caud.* 0 rays.

Barbarus Caudal and anal fins 0 ; body 6-sided. *Longer P.*

Inhabits *European* seas : about 2 feet long ; body olive-brown with numerous blueish lines pointing from the back to the belly ; tail quadrangular.

Dors. 40 : *pect.* 12 : *an.* 0 : *caud.* 0 rays.

Hippocampus. Caudal fin 0 ; body 7-sided, tuberculate ; tail square.

Inhabits the shores of the *Mediterranean*, *Indian* and *Northern* seas ; 8–12 inches long ; bends the body in different curvatures like the eel ; brown, above marked with black and white circular incisions, behind spotted, compressed each side, with bearded fibrous tubercles ; when the head is bent down it has some resemblance to that of a horse ; it has 3 spines each side, 2 on the anterior part of the tail, and 1 on the posterior.

Head large ; above the *eyes* are 4 bony, fibrous tubercles, and 1 above the nose ; *iris* silvery ; *trunk* with 7 rows of tubercles, and 13 plates ; ridge of the *belly* denticulate ; *tail* with 35–38 plates ; *fins* thin, reddish ; *dorsal* with a black border edged with white ; *anal* fin by its position resembling a ventral one, being placed before the vent.

Dors. 20, *pect.* 20, *an.* 4 rays.

61. PEGASUS.

61. PEGASUS. *Mouth* beneath: *snout* retractile; upper jaw elongated, denticulate, ensiform, linear: aperture of the *gills* single, before the pectoral fins: *body* compressed downwards, articulate with bony incisures, and mailed: *ventral* fins behind the pectoral.

Draconis. Snout conic.

Inhabits *India*: 3-4 inches long; feeds on worms, the spawn of other fish and fat earth; body above blueish, with brown radiate tubercles, beneath broad, with a longitudinal eminence in the middle, on which are seated the ventral fins.

Head close to the trunk; *eyes* prominent, lateral, moveable in every direction, iris yellow; *jaws* with minute teeth; aperture of the *gills* narrow, lunate, the cover radiate; *vent* near the *tail*, which has 8 gibbous laminæ at the sides; *rays* of the fins simple.

Dors. 4: *pect.* 10: *vent.* 1: *an.* 5: *caud.* 8 rays.

Volans. Snout ensiform, denticulate.
Inhabits *India*.

Natans. Snout ensiform, unarmed.

Inhabits *India*: size of *P. draconis*; body broad on the fore-part and narrowed behind, above yellow-brown, beneath broad, smooth, white.

Head flat, smooth, broad, narrowed on the fore-part; *eyes* large, round, lateral, iris yellow; *snout* dilated at the tip; *gill-cover* radiate; *tail* with 11 laminæ, which grow gradually narrower towards the tip, the last with 2 spines; *vent* in the middle of the body; *rays* of the fins simple; *pectoral* violet; the rest brownish; *dorsal* and *anal* opposite, small; *caudal* narrow.

Dors. 5, *pect.* 9, *vent.* 1, *an.* 5, *caud.* 8 rays.

62. CENTRISCUS. *Head* lengthened into a very narrow snout: *mouth* without teeth; lower jaw longer: aperture of the gills broad, flat: *body* compressed: *belly* carinate: *ventral* fins united.

atus. Back covered with a smooth bony shell.

Inhabits *India*; 6—8 inches long; feeds on mud, and lesser aquatic animals; body thin, pellucid near the back, above brownish, the sides yellow mixed with silvery, beneath reddish, and marked with transverse white lines.

Head oblong; *snout* tubular, bent up; *mouth* narrow; *iris* yellowish-white; *eyes* with a nictitant membrane, and near the *nostrils*, which are double; *gill-cover* smooth, pellucid, horny, the aperture lateral and large; *back* covered with very smooth, golden, closely united plates, the hind-part armed with a long, spear-like point; *belly* with 10—12 plates, encompassed at the lower edge with a thin, loose membrane; *pectoral* fins distant from the gills, yellowish; *ventral* and *dorsal* yellowish, the rest brown.

Dors. 3, 11, *pect.* 11, *vent.* 5, *an.* 13, *caud.* 12 rays.

opax. Body scaly, rough; tail straight, extended.

Inhabits the *Mediterranean* sea; a span long; body pale red, broad, rough, with hard, pointed, closely imbricate scales; flesh eatable.

Head broadish above; *snout* turned up; *mouth* very narrow; lower jaw with a cover; *eyes* lateral, large, *iris* pale red; *nostrils* double, near each other; *gill-cover* of one piece, the aperture very large; *fins* cinereous; first ray of the *pectoral* very long; *ventral* small, hid in a bony hollow; *dorsal* and *anal* opposite, the former with rigid rays, the first of which is moveable, very strong, toothed each side and placed in a little hollow; *tail* rounded.

Dors. 4, 17, *pect.* 16, *vent.* 5, *an.* 18, *caud.* 9 rays.

tarius. Body oblong lanceolate; rough with small recumbent bristles at the nostrils.

Inhabits *Amboina*: 2 inches long; body silvery, above yellowish-grey, triangularly carinate before the ventral fins.

Head flattish at the sides and between the eyes; from the snout to the eye a prominent line; iris silvery; *snout* tubular, compressed, without jaws; *gill-cover* flat, very entire; *head* hardish on the fore-part, appearing as if mailed with a rhombic plate, with about 4 oblique lines, in the middle is a recumbent, slightly moveable, tubulate, very sharp spine, a line serrate at the edge, and channelled beneath, and beneath another smaller spine, placed in a hollow of the back; and behind the middle of the body, with a very minute recumbent spine before it; *anal* fin broad; *tail* roundish, slightly forked; the rest small.

Dors. 12: *pect.* 13: *an.* 25: *caud.* 12 rays.

63. BALISTES. *Head* compressed, close to the body, with sometimes a spine between the eyes: *mouth* narrow: *teeth* in each jaw 8, of which the 2 anterior are longer, and 3 interior ones each side: *aperture* of the *gills* narrow, above the pectoral fins; *cover* of *membrane* 2-rayed: *body* compressed, carinate each side, rough with very minute prickles; the scales joined together by the skin.

None of the fishes of this genus inhabit the seas of Europe: they are able to inflate the belly, which at that time is rough with very minute prickles; they feed on other fish, and many of them are of a vast size; most of them are suspected to be poisonous.

Monoceros. Head-fin 1-rayed; tail-rays carinate.

2. Body marked with black, red, and blue characters.

Inhabits the seas of *Asia* and *South America*: about 1 foot long, 2) 3 feet; feeds on young crabs and polypi; body thin, varied with cinereous and brown; flesh tough, 2) poisonous.

Head large, sloping; *eyes* vertical, with 2 oblong hollows before them, *iris* yellow; *lower jaw* longer; *lips* moveable; *vent* nearer the mouth than the tail; *spine* supplying the place of ventral fins, covered by the outer skin; that which supplies the place of the first dorsal fin bent backwards, serrate each side, and affixed to the back by its proper membrane; *fins* yellow; *caudal* with 3 brown bands, and like the pectoral with split rays, *dorsal* and *anal* with simple rays.

Dors. 1, 46, *pect.* 14, *an.* 50, *caud.* 12 rays.

lispidus. *Head-fin* 1-rayed; *snout* subulate; *tail* with a black ocellate spot.

Inhabits *Carolina*; *body* rough, and bristly towards the tail.

Spine between the eyes nearly decumbent; *membrane* of the *fins* hollow at the base between the rays; *spine* in the place of the ventral fins serrate and pointed.

Dors. 1, 30: *pect.* 14: *vent.* 1: *an.* 29: *caud.* 12 rays.

omentosus *Head-fin* 2-rayed; *body* a little hairy on the hind-part.

Inhabits the *Indian* sea: *body* thin; *sides* on the upper part yellow, lower cinereous; *beneath* yellow; *varied* with oblong black spots.

Eyes rounded, near the *nostrils*, which are double, *iris* golden; *jaws* equal, the upper with 10 teeth; *spine* of the head shorter, stronger and broader than that of *B. monoceros*, and denticulate backwards each side; *belly* dilatable; *tail* rough with small prickles curved back; *fins* yellow; *first* rays of the *dorsal* and *anal* bifid, the rest simple; those of the *tail-fin* many-cleft.

Dors. 1, 31: *p.* 9: *a.* 27: *c.* 9 rays.

papillofus. *First dorsal fin* 2-rayed; *body* papillous.

Dors. $\frac{1}{2}$, 29: *pect.* 13: *an.* 21: *caud.* 12 rays.

errucosus *First dorsal fin* 3-rays; *tail* with a triple row of warts.

Inhabits *India*: is probably a variety of *B. aculeatus*.

Ray in the place of the *ventral* fins thick and warty; *prickles* at the side of the tail about 25, small, reversed, and placed in 4 rows.

Dors. 3, 24: *pect.* 13: *an.* 11: *caud.* 12 rays.

biaculeatus. *Ventral spines* 2; *tail* forked.

Inhabits *India*; *body* elongated, white, above cinereous.

Head ending in a sort of proboscis; *eyes* nearly vertical, large, oblong, iris pale green; *jaws* equal, the upper with 15, lower with 10 sharp teeth; *lateral line* commencing above the eye, nearer and parallel with the back, and a little inflected before the tail; *ventral* spines long, denticulate each side, and each placed in its separate hollow, before which is a black spot; *vent* nearer the tail; first *dorsal* fin black, the first ray thick, strong, bent back, and toothed each side; the rest yellowish; *pectoral* and *caudal* with branched rays, the rest simple.

Dors. 4, 23: *p.* 13: *v.* 1: *a.* 17: *c.* 12 rays.

Aculeatus. First dorsal fin 3-rayed; tail with recumbent spines at the sides.

Inhabits the *Indian* and *Red Seas*; feeds on young crabs; body broader and thicker than *B. biaculeatus*, and covered with papillæ on the surface, disposed in an irregular square. *Eyes* round, placed directly behind the *nostrils*, which are narrow and rounded, iris golden; *jaws* equal, the upper with 12, the lower with 10 sharp teeth; *ventral* spine strong, toothed, behind which are numerous dagger-like points; the number of rows of reversed spines on the tail, and the number of spines in those rows is different in different subjects, and is perhaps occasioned by age; *fins* short; first *dorsal* black with simple spinous rays, the first very broad and serrate forwards at the base; the rest chestnut, cinereous at each end, the rays soft and branched.

Dors. 3, 25: *pect.* 15: *vent.* 13: *an.* 23: *caud.* 13 rays.

Vetula. First dorsal fin 3-rayed, ventral longitudinal; tail forked.

Inhabits the deeps of the *American* and *Indian* seas; feeds on testaceous animals; body above yellow-brown with greyish lines, the sides yellow, beneath cinereous; the skin is divided into small roundish partitions, and it makes a grating kind of noise when taken.

Head middle-sized, varied with blue lines, of which about 8 appear to be radiate from the eye; *iris* red; *lips* thick edged with blue; *jaws* furnished with cutting teeth, in the upper 14, lower 12; aperture of the *gills* comparatively large; *vent* in the middle of the *belly*, which is furnished with 3 rows of prickles before the fin; *tail* with blueish bands near the anal fin, which are greyer nearer the tail; *pectoral* fin yellow edged with blue; *dorsal* blueish, the first ray of the anterior very strong and toothed forwards, the posterior is
 ray,

FISHES. BRANCHIOSTEGOUS. 63. Balistes. 901

cate, and like the *anal* cinereous, with blue lines; all these have forked rays; *tail* edged with blue, the rays yellow and branched, the outmost each side very long.

Dors. 3, 30 : *pect.* 16 : *vent.* 16 : *an.* 28 : *caud.* 12 rays.

Maculatus Anal fin broad; first dorsal fin 2-spined.

Inhabits the *American* sea; body thicker than the last, violet, beneath whitish-yellow; the skin is divided into small unequally square pieces, and covered with papillæ.

Head small, a little sloping; before the eyes is a small hollow, in which are placed the double *nostrils*; *iris* sea-green; *jaws* equal, each with 12 teeth; between the strong bone of the belly and vent a few spines instead of *ventral* fins; *rays* of the fins branched; *pectoral* small, yellow; the rest large; first *dorsal* affixed to the back by a long membrane, the first ray thick, strong, toothed forwards, the other thin and short.

Dors. 2, 24 : *pect.* 14 : *an.* 21 : *caud.* 12 rays.

Vingens. First dorsal fin 3-rayed; each side the head 3 folds; tail forked.

Inhabits *China*: is very large and entirely black, broad on the fore-part and narrowed behind, the belly armed with a long rough strong spine, the skin divided into rhombic partitions.

Head short, very much sloping; *iris* white; *mouth* large; upper *jaw* a little longer; *tail* with 3 grooves, terminated by a lunate fin; first ray of the first *dorsal* fin bent back, jagged on the fore-part, the other fin very small; *rays* of the others branched; *anal* and second *dorsal* with a blue streak.

Dors. 3, 29 : *pect.* 15 : *an.* 26 : *caud.* 12 rays.

inensis. Head with a single ray; ventral fin single.

Inhabits the seas round *Brazil* and *China*; body broad, rough, sprinkled with small orange spots, cinereous at the sides, beneath whitish; flesh hardly eatable.

Head small, sloping, with a spine between the eyes, which is rough each side with inverted teeth, and placed in a hollow on the back; *eyes* large, round, placed behind the nostrils and ears, *iris* white; *jaws* equal, each with 10 teeth; *lateral line* beginning immediately behind the eyes, bent downward hardly visible, and armed with a double row of 4 prickles bent forwards; *ventral* fin single, rough, the rays toothed and the tips except of the first covered by a thick skin; *tail* rounded, the rays split at the end; the other rays simple; first *dorsal* and *anal* cinereous dotted with yellow.

Dors. 1, 30 : *pect.* 13 : *vent.* 13 : *an.* 30 : *caud.* 13 rays.

Afasi.

Afasi.

Body muricate with brown warts; tail with a triple row of black ones.

Inhabits the *Red Sea*; a span long; brown, belly white; vent black, surrounded by a tawny ring; flesh eatable, but insipid.

Crown with 4 blue and 3 alternate black transverse bands before the eyes; iris golden; lips yellow; from the mouth to the base of the pectoral fin is a rusty-brown line, from this to the eye another lanceolate black one, and before this a lanceolate yellow one, edged with blueish-white; tail with an oblong white spot; first dorsal fin black, placed in a hollow, the first rays warty and spinous; the other fins pale reddish.

Caprifcus. Dorsal ray serrate forwards, ventral single, low; tail rounded; snout a little obtuse,

Inhabits the *American, Indian and Mediterranean seas*; body variegated with many colours.

Forcipatus Tail forked; dorsal fin spotted.

Dorsal spine resembling a horn, and every where rough with tubercles or small teeth.

Punctatus. Body punctate.

Inhabits the *Indian Sea*.

Kleinii.

Body somewhat oblong; jaws extended; first dorsal spine rough each side, ventral 0.

Inhabits the *Indian Sea*: body compressed, whitish, beneath carinate.

Head hardly thicker than the body, with the mouth placed at the extremity; teeth strong and numerous; vent in the middle of the belly; pectoral fins and tail rounded.

Dors. 2, 46, pect. —, an. 47, caud. 10 rays.

Curassavicus.

First dorsal ray rough, ventral low, blunt; tail truncate; snout obtuse.

Inhabits about the *Caribbee Islands*: 3 inches long; body long, a little flat, compressed, above brown, the sides pale tawny, shining, above arched, beneath convex, and covered with hard rough scales, those on the sides blackish in the centre.

Fys

FISHES. BRANCHIOSTEGOUS. 63. Balistes. 903

Eyes spherical, near the nostrils, and furnished with a peculiar tunic; first *dorsal* fin small, brown, affixed to the back by a triangular membrane, and placed in a hollow, the other *dorsal* and *anal* linear; *pectoral* small; *tail* even.

Dors. 2, 27, *pect.* 13, *an.* 26, *caud.* 8, 9.

America-
nus.

Dorsal and *ventral* ray very low; second *dorsal* fin and triangular *anal* larger.

Inhabits the *American Ocean*; resembles *B. tomentosus*; body brownish, beneath spotted with white.

Teeth in each jaw, numerous, triangular; first ray of the anterior *dorsal* fin very thick, strong, and rough on the forepart, the others distant and subulate; the second fin unarmed; instead of *ventral* fins a short truncate bone, extending obliquely downwards towards the tail; *tail* rounded.

Dors. 3, 22, *pect.* —, *an.* 19, *caud.* — rays.

Gularis.

Throat with a deep conic pouch.

Inhabits *New South Wales*. PHILLIPS *Bot. Bay*, p. 281.

Body blue; *dorsal* fin 3-spined, the first serrate behind; pouch large, resembling a jelly-bag; *caudal* fin deeply cleft into 6—7 parts.

Niger.

First *dorsal* fin 3-spined; body black, papillous; tail nearly entire, tip with white.

Inhabits the coast of *Sumatra*. Linn. *Transf.* iii. 37.

Eyes nearly vertical, oblong, iris brown; prickles of the tail small, reversed, disposed in 7 rows; first *dorsal* fin black; *caudal* yellowish, the rest yellow.

Dors. 3, 27, *pect.* 14, *an.* 24, *caud.* 10 rays.

Undulatus

First *dorsal* fin 3-rayed; sides of the tail with very strong recumbent spines; body black, waved with red lines.

Inhabits *Sumatra*. Linn. *Transf.* iii. 37.

Head large, obtuse; iris brown; from the lips running down to the base of the *pectoral* fins are 3 red bands; body obliquely undulate with 12 red lines; *caudal* spines strong, the anterior ones smooth and horny; first *dorsal* fin black, the rest yellow; *tail* nearly even.

Dors. 3, 26, *pect.* 13, *an.* 24, *caud.* 13 rays.

64. CYCLOP-

64. CYCLOPTERUS. *Head* obtuse : *mouth* on the fore-part : *tongue* short, thick : *teeth* small, sharp, numerous : *gill-membrane* 4-rayed ; the cover of one piece : *body* short, thick, without scales : *ventral* fins united into an oval concavity, forming an instrument of adhesion. *Sucker.*

These inhabit the sea ; feed on worms, insects and the fry of other fish ; have no lateral line ; and are furnished beneath the ventral fins with an oval aperture of a fleshy muscular substance, and edged with small threaded appendages, by means of which they have the power of adhering so firmly to rocks, as to be moved by scarcely a less force than would destroy them.

• *Lumpus.* Body angulate by rows of sharp bony tubercles. *Lump S.*

2. Body roundish ; tubercles flat ; belly smooth.

3. Dorsal fin very long.

*4. Silvery sea-green ; sides pale rosy ; back blue.

Inhabits Northern seas, 2, 3) the Indian and American oceans ; about 2 feet long, and is exceedingly fertile ; body thick, broad, variable in colours, but generally black above, cinereous at the sides, beneath orange, and rough with 7 rows of hard, radiate tubercles, of which one row is on the back and 3 each side on the sides.

Head short ; *front* broad ; *eyes* with the optic nerves decussate, iris white ; *nostrils* single, tubular, near the mouth ; *lips* thick ; *tongue* moveable ; *back* carinate ; *sides* and *belly* broad ; *pectoral* fins large, the rays orange, and as in the other fins, split at the ends and extending beyond the membrane : rays of the *anal* and *dorsal* orange, the fins cinereous, with blackish spots ; besides the *dorsal* fin is an anterior fleshy one ; *bones* cartilaginous, green ; *flesh* fat and oily, but insipid.

The 4th variety was taken on the coast of North Wales in 1797, and is beautifully figured and accurately described in the *Naturalist's Miscellany*, tab. 310.

Dors. 21, *pect.* 20, *vent.* 6, *an.* 10, *caud.* 9 rays.

Mixis.

Minutus. Body naked; snout above the mouth with 3 tubercles.
 Inhabits the *Atlantic*; body whitish, compressed, tapering towards the tail, sides with 2 bony tubercles in the middle.
Head thicker than the body, nearly square, and obtuse on the fore-part; *iris* brownish; *lips* doubled; edge of the *jaws* and *palate* rough with very minute teeth; *vent* nearly in the middle of the body; in the place of the first *dorsal* fin is a tapering, reclined long spine; *pectoral* yellow; *tail* entire, equal; *abdominal* concavity oval, undivided, the border with about 7 lobes each side.
Dors. 1, 8: *pect.* 16: *vent.* 7: *an.* 7—8: *caud.* 10 rays.

Vudus. Body naked; head with a spine each side on the hind-part.
 Inhabits *India*.
D. 6, *p.* 21, *v.* 2, *a.* —, *c.* 10 rays.

Dentex. Body naked; head unarmed, very smooth; fins separate.
 Inhabits *South America*: body reddish, about 3 times as large as the *Cottus grunniens*; skin hardish, smooth.
Head very large and much broader than the body, depressed, flat above; *eyes* oval; *iris* silvery-white; *mouth* as large as the head; *lips* thick, wrinkled, doubled, with 2 very soft, fleshy caruncles within; *tongue* short, of an elliptical rounded figure; *jaws* rounded; *teeth* conic, unequal; *gill-covers* large, bony; *belly* inflated; *vent* close to the tail, and behind it the genital peduncle; *fins* soft, whitish, the rays thick, setaceous and cartilaginous; *dorsal* a little before the *anal*; *pectoral* semicircular; *tail* compressed, flattish, rounded, fore-part of the instrument of adhesion fleshy and lunate, hind-part nearly circular.
Dors. 8: *pect.* 23: *vent.* 4: *an.* 6: *caud.* 10 rays.

entricofus Body naked; urinary vessel double, very large, and distending the belly.
 Inhabits the sea between *Kamtschatka* and *America*; about a foot long; body olive, covered with a thick, slimy, livid mucus; soft, back flattish, tail suddenly tapering behind the vent.
Head thick, narrower than the body, retuse; *crown* flattish; *eyes* lateral, on the top of the head, *iris* silvery, waved with brown; *tongue* thick, cartilaginous, the prominent part parabolic; *lips* thin, skinny; *jaws* edged with minute unequal teeth, a little curved; *nostrils* double; *gill-covers* entirely ad-
 Vol. I. — 5 Z hering;

hering; *dorsal* fin nearer the tail, yellowish-white, the rays black; *pectoral* broad; *anal* opposite the *dorsal*, the fifth ray longer; *caudal* subequal, the rays branched, except the outer ones; oval of adhesion fleshy on the disk, pale yellow, a little wrinkled and papillous, the border soft and contractile.

Dors. 10: *pect.* 18—20: *vent.* 6: *an.* 8—9: *caud.* 10 rays.

Gelatinosus Body naked, subdiaphanous, gelatinous; *pectoral* fins very broad.

Inhabits the eastern part of *Kamtshatka*, and the opposite shores of *America*; about a foot and a half long; body very slender, oblong, compressed, thicker towards the head, and gradually tapering to the tail, whitish, with a rosy tinge; skin smooth, very soft; when just caught trembles like a piece of jelly, and is so rank as to be abhorred even by dogs.

Head thick, nearly square, a little depressed; iris livid-green, surrounded by a blueish ring; *nostrils* tubular, prominent, placed between the eyes and mouth; between these and the mouth each side are 2 pores, and from the angle of the mouth to the valve of the gills 10 others; *tongue* hardly discernable; *lips* doubled, thick, fleshy, the inner ones retractile; *gill-cover* skinny, soft, connected wholly by a purplish-black membrane, the aperture oval; inner border of the jaws rough; *vent* in the middle of the body; *dorsal* and *anal* fins dark violet, the rays soft, beginning a little behind the middle of the body and running down to the tail; *ventral* flaccid, placed near the head, rounded, with soft rays; orb of adhesion small, soft, nipple-shaped.

Dors. 51: *pect.* 30: *vent.* —: *an.* 45: *caud.* 6 rays.

**Liparis*. Body naked; *dorsal*, *anal*, and *caudal* fins united.

Unctuous 8.

Inhabits the *Northern* seas as far as *Kamtshatka*, and sometimes gets up into rivers; 5—18 inches long; body elongated, thick, compressed, soft, unctuous, mucous like a snail, nearly transparent and soon melts away; above brown, with darker stripes, beneath white, sides and head yellow; flesh mucous and oily.

Head large, thick, round; eyes small, vertical, iris yellow; upper lip with 2 short cirri; upper jaw a little longer; *gill-cover*

gill-covers short, round, the aperture narrow ; *fins* brown ;
tail short, rounded, the others long ; *orb* of adhesion
round, blueish, with 12 radiate spots.

Dors. 41 : *pect.* 34 : *vent.* 6 : *an.* 33 : *caud.* 10 rays.

Lineatus. Body naked ; dorsal and anal fins running gradually into the tail.

Inhabits the *White Sea* ; body chestnut, with straight and waved whitish longitudinal bands, very thick at the breast and tapering behind : this fish is not sufficiently distinct from the last.

Head depressed, sloping, obtuse, a little broader than the body ; eyes in the middle of the head, pupil white, iris blueish ; lips covered with a thick skin, papillous within ; tongue small, loose ; jaws with a double row of crowded, sharp teeth, the upper a little longer ; back gibbous ; dorsal and anal fins with small pale green bands ; pectoral large, lunate ; caudal very small ; orb of adhesion thick, fleshy, hollow in the middle, protuberant at the edge, and beset with reddish papillæ.

* *Lepidogaster.* Body naked, slippery, tapering both ways ; snout truncate ; before each eye a small filament. *Jura S.*

Inhabits the coast of *Cornwall* ; 4 inches long.

Body dusky ; teeth small ; behind the eyes 2 semilunar marks ; in the middle of the back an oval mark, formed by small dots, of a whitish colour ; dorsal fin near the tail and opposite to the anal ; tail rounded.

Dors. 11 : *pect.* — : *vent.* 4 : *an.* 9 : *caud.* — rays.

* *Bimaculatus.* Head flat, tumid each side, tapering to a point ; pectoral fins placed near the nape. *Bimaculated S.*

Found near *Weymouth* : smaller than the last ; body fine pink ; fins whitish ; each side the instrument of adhesion a round black spot ; tail even at the end.

65. LOPHIUS. *Head* compressed downwards; *teeth* sharp, numerous: *tongue* broad, armed with teeth: *eyes* vertical: *nostrils* small: *gills* 3, the aperture lateral, simple: *pectoral* fins broad, thick, and more or less resembling feet: *dorsal* and *anal* opposite and near the tail: *body* naked, covered with a thin loose skin: *vent* in the middle of the body: *lateral line* 0.

• *Piscatorius*. Body depressed; head rounded.

Fishing-frog. Angler. Frog-fish.

Inhabits most *European* seas; grows to 7 feet long; lurks behind sand-hills or heaps of stones, and throwing over the slender appendages on its head resembling worms, entices the little fish to play round them till they come within its reach to devour them; is very sluggish, and swims with great difficulty; above brownish, beneath white, above with a few spines, and along the edges of the head and body a multitude of short fringed skins.

Head much larger than the body; *iris* radiate with white and brown; before the eyes a horny bristle; *teeth* long, rounded, bent inwards, those in the upper jaw in 3 rows, those in the lower jaw which is longer, rounded, in a double row, the hind-ones very large and moveable inwards; *tongue* broad, thick, short; *palate* and bones of the throat toothed; *ventral* fins short, rigid, palmate, white; *tail* black; the other fins brown; *pectoral* white beneath, edged with black.

Dors. 10: *pect.* 24: *vent.* 5: *an.* 9: *caud.* 8 rays.

Barbatus. Body depressed; lower jaw bearded.

Inhabits the seas of *Northern Europe*; $3\frac{1}{2}$ feet long; a very voracious fish.

Vespertilio. Body depressed; head rostrate.

Inhabits

FISHES. BRANCHIOSTEGOUS. 65. *Lophius*. 909

Inhabits the *American* ocean; body reddish, broad before, narrowed behind and covered with radiate sharp, patelliform tubercles, beneath with small prickles also; in its mode of catching its prey resembles *L. piscatorius*.

Eyes large, iris radiate with white and yellowish; mouth narrow, beneath; jaws with a row of small, incurved teeth; above the *nostrils* a horny fibre, tuberculate at the end; vent nearer the tail; aperture of the *gills* small, semilunar; *ventral* fins palmate, approximate, and with the *dorsal* brown; *pectoral* and *caudal* yellowish.

Dors. 5: *pect.* 10: *vent.* 6: *an.* 0: *caud.* 15 rays.

istrio. Body compressed, tumid, yellowish variegated with irregular blackish spots.

Inhabits *South American* seas; 9—10 inches long; preys on other fish like the Fishing-frog.

Head small; eyes round, iris yellow, radiate with brown; lower-jaw longer; lips bearded with cirri; behind the upper lip a cartilaginous, elastic fibre, with 2 oblong, elastic, fleshy substances at the end; behind this a high, stout, fleshy ray, and between this and the *dorsal* fin another stronger and thicker, and all beset with fibres; back broad on the fore-part and carinate behind; belly thick, prominent; *ventral* and *pectoral* fins resembling feet.

Dors. 12, *pect.* 11, *vent.* 5, *an.* 7, *caud.* 10 rays.

riatus. Body compressed, brown, marked all over with numerous black streaks.

Inhabits the coasts of *New Holland*.

Nat. Miscel. pl. 175.

ellus. Body compressed, brown, with yellowish blotches edged with red.

Inhabits the *Southern* ocean. *Nat. Miscel. pl.* 176.

Tendril on the nose forked at the end.

armora-
lps. Body subcompressed, livid, varied with whitish and ferruginous; dorsal fin single.

Inhabits the *Southern* ocean. *Nat. Miscel. pl.* 176.

Tendril on the nose 3-cleft at the end.

Mono-

*Monop-
terigi-
us.*

Body depressed, blackish, beneath whitish; fin above the tail suberect, ramose.

Inhabits the seas of *Australasia*. *Nat. Miscel. pl.* 202, 203.

This very singular fish, Dr. SHAW is doubtful where to place; it has no fin except the lobate one just above the tail; the eyes are vertical, approximate, and far behind the snout; the body roundish, a little tapering to both ends, and the tail or lobe at the end of the body rounded.

ORDER VI. CHONDROPTERIGIOUS.

Gills cartilaginous.

66. ACIPENSER. *Head obtuse : mouth beneath the head, retractile, without teeth : cirri between the end of the snout and the mouth 4 : aperture of the gills on each side : body elongated, angulate with numerous rows of large bony plates. Sturgeon.*

These may be ranked among the larger fish ; are inhabitants of the sea, but ascend rivers annually ; the flesh of all of them is most delicious ; from the roe is made *Caviare*, and from the sounds and muscular parts is made *Isinglass* ; they feed on worms and other fishes ; the females are larger than the males.

urio, Snout obtuse, transverse diameter of the mouth equal to its length ; cirri nearer the tip of the snout ; lips bifid.
Common St.

Inhabits *European, Mediterranean, Red, Black and Caspian* seas, and annually ascends rivers in the spring ; 6—18 feet long ; body 5-sided and armed with 5 rows of bony tubercles, which are radiate and end in a recurved point at the top, one of which row is on the back, 2 on the sides, and 2 on the margin of the belly ; back and sides with brownish spots ; is slow, very fertile, and preys on other fish ; dorsal fin with 38 rays.

ypa, Snout obtuse, a third part longer than the diameter of the mouth ; cirri nearer the end of the snout ; lips bifid.
Inhabits the *Caspian* sea and large lakes of *Siberia* ; hardly 5 feet long ; may possibly be only the younger fish of the last.

Ruthenus.

Ruthenus. Snout subulate, straight, 4 times as long as the diameter of the mouth; cirri not much nearer the mouth; lips entire.

Inhabits the *Caspian* sea and sometimes the *Baltic*: very seldom exceeds 3 feet long; body elongated, covered with small prickles; head varied with cinereous and yellow; back dark ash; belly white; spots on the body rosy; bony plates on the back and sides a little prominent and pointed, those on the belly flat.

Head long, flat above and beneath; eyes round, iris golden; gill-cover of one radiate piece; upper fins cinereous, lower red.

Dors. 39, pect. 20, vent. 23; an. 22, caud. 76 rays.

Stellatus. Snout spatulate, subrecurved, 6 times as long as the transverse diameter of the mouth; cirri nearer the mouth; lips entire.

Inhabits the *Caspian* sea; 4—5 feet long; slenderer than the last, with the rudiments of small scales irregularly disposed; back covered with numerous whitish, rough, stellate callosities; body angulate with 5 rows of bony plates, 13 in the back row, 35 lesser ones in each of the side rows, and 3 behind the vent; above blackish, gradually growing browner, beneath white, and speckled with white and variegated beneath the lateral plates.

Head nearly square, and covered with pointed tubercles and dentate stars; snout a span long, very rough with ferrug streaks, smooth and mucous beneath at the base; mouth longer than in others, emissile; auditory pores large, lunate; tail very obscurely 6-sided; fins long; tail falcate, the upper division very long.

Huso. Snout very obtuse, shorter than the diameter of the mouth; cirri nearer the mouth; lips entire.

Inhabits the *Danube*, *Volga* and other *Russian* rivers, and the *Caspian* sea; 9—24 feet long; body above black, beneath yellow, covered with bony tubercles which disappear as the fish grows older; the skin is hard and tough, and used for carriage-traces.

67. CHIMÆRA. *Head* pointed: *spiracle* single, quadripartite, under the neck; *mouth* beneath, upper lip 5-parted: *cutting-teeth* 2, above and below: *body* lengthened; *dorsal spine* single: *tail* ending in a slender thread, and longer than the body.

Monstrosa Snout with porous folds beneath.

Sea Monster.

Inhabits the deeps of the *Atlantic* and *Northern* seas; feeds on crabs, molluscæ and testaceous animals; body long, compressed each side, smooth, silvery, spotted with brown.

Head oblong, terminated by the snout; *nostrils* with a fibre ending in a tuft of hairs; *mouth* narrow; each jaw with a triangular grinder each side; in the lower 2 bony plates; *eyes* large, surrounded with a curved line above and beneath, pupil sea-green, iris white; *lateral line* white, edged each side with a confluent brown one; *vent* between the ventral fins; *genitals* double; before the *ventral* fins are 2 short clawed pedicels; *tail* lanceolate, pinnate beneath, nearly twice as long as the body; *fins* brown; *dorsal* 3, the first triangular, with a strong spine before it toothed backwards, the next very long, and like the third, which is opposite the anal, narrower; *pectoral* large; *ventral* small.

Urolophus

Snout beneath with a smooth, inflected lip.

Inhabits the *Ethiopian*, *Chilese* and *New Holland* seas

68. SQUALUS. *Head* obtuse: *Spiracles* 4—7, semilunar, at the sides of the neck: *eyes* oblong, vertical, half covered, placed before the temporal orifices: *mouth* beneath, in the fore-part of the head: *teeth* numerous, serrate, unequal, sharp, partly moveable, partly fixed: *body* oblong, roundish, rough with very tender prickles; *ventral* fins generally less than the pectoral, approximate, and situated round the vent. Shark.

This dreadful and rapacious tribe are inhabitants of the sea only, and are rarely found in the *Baltic*: they shine by night, and have a tapering subcompressed body, which in some species grows to an enormous bulk, weighing from 1000 to 4000 pounds; their flesh is hard, tough and rank; from the liver is extracted a large quantity of oil; the skin is used for carriage-traces, and for polishing wood, ivory, &c.; a few of them are gregarious and feed on molluscae and other marine worms, but most are solitary, wandering, devouring whatever comes in their way, and following ships to seize any thing which may happen to be thrown overboard: they bring forth the young alive, more than one at a time, each of them enclosed in a square, pellucid, horny case, terminated at the 4 corners by very long slender filaments, which are generally twisted round corallines, sea-weed, or other fixed substances.

A. With temporal orifice and anal fin.

Isabella. First dorsal fin opposite the abdominal.

Inhabits *New Zealand*; $2\frac{1}{2}$ feet long; body spotted with black beneath whitish, a little depressed, resembles *S. crinitatus*, except in the position of the dorsal fin, and having the head more depressed.

fin.

Head short, broad, obtuse; *eyes* deep, pupil oblong, iris brass-colour; *teeth* compressed, short, triangular, sharp, with a lesser one at the base of each, and disposed in 6 rows; *tongue* thick, short, very obtuse; *temporal orifice* round, largeish; *dorsal* fins nearly square, the second opposite the anal; *pectoral* very large, originating at the third spiracle; *ventral* distinct, pointed behind; *lateral line* parallel with and near the back.

Canicula. Nostrils surrounded with a lobe and vermiform appendage; ventral fins distinct. *Spotted Dog-fish.*

Inhabits most seas; 4 feet long; is very voracious and feeds chiefly on fish; body reddish-brown, with large distinct black spots, beneath white, a little compressed at each end; the skin when dried is used for various purposes.

Head small; *snout* short; *eyes* oblong; pupil sea-green, iris white; *mouth* wide, oblong, with 3 rows of teeth; *tongue* cartilaginous, and with the *palate* rough; *vent* before the middle of the body; first *dorsal* fin behind the ventral, second less, and nearly opposite the anal; *tail* narrow, ending below in a sharp angle.

Catulus. Nostrils covered with a lobe and vermiform appendage; ventral fins connected. *Lesser spotted Dog-fish.*

Inhabits the *Northern, Mediterranean and Indian* seas; 2—3 feet long; very much in shape and spots resembling the last.

Head large; *pupil* black, iris white; *snout* semipellucid; *mouth* between the nostrils; *teeth* serrate, tricuspidate, curved inwards, the middle ones longer, in 4 rows; *tongue* broad, smooth, loose; *back* round, the sides a little compressed; *tail* longer than the body, the fin narrow; first *dorsal* fin opposite to the ventral, and small, the second opposite the anal: the fat procured from its liver is suspected of being poisonous.

Stellaris. Lobes of the nostrils double.

Inhabits the *European* ocean; 2—6 feet long; feeds on crustaceous animals, molluscae and lesser fish; body reddish, with unequal blackish spots, beneath dirty-ash; resembles *S. canicula*, but the spots are larger and fewer, the snout a little longer, the tail a little shorter, and the nostrils nearly closed; brings 19—20 young at a time.

Dorsal fins equal, the first a little behind the middle of the body, the second a little behind the anal.

**Galeus*. Teeth nearly triangular, ferrate on the inner edge. *Tepe*.
Inhabits the *European* ocean; above 3 feet long; body dark cinereous, beneath paler, elongated, round; is exceedingly voracious and will follow its prey to the very edge of the shore.

Eyes placed midway between the tip of the snout and first spiracle; snout elongated, depressed; tongue large, rounded; nostrils near the gape of the mouth, and partly closed by a short flap; temporal orifice very small; vent before the middle of the body; second dorsal fin less, equal to and behind the anal which is pointed behind; tail large, the fin lobes; lateral line obsolete.

**Mustelus*. Teeth very small, obtuse. *Smooth Hound*.

Inhabits *European* and *Pacific* seas; 2 feet long.

Snout conic, covered with mucous pores; nostrils partly covered with a flap; first dorsal fin nearly triangular, before the ventral, second twice as large as the anal which is square; ventral in the middle of the body, as small again as the pectoral; caudal forked, the upper lobe longer.

Cirratus. Nostrils with a worm-shaped appendage.

Inhabits the *American* and *Pacific* seas; 1—5 feet long; body coated with large, flat, shining scales; when young is spotted with black.

Head depressed; snout short, obtuse; eyes and temporal orifice small; lips thick at the sides; teeth numerous, sharp, long, dilated at the base; 2 hindmost spiracles approximate; vent in the middle; first dorsal fin opposite the ventral; anal small; tail $\frac{1}{4}$ the length of the whole body.

Barbatus. Gape of the mouth bearded with vermiform appendages.

Inhabits *New Holland*; $3\frac{1}{2}$ feet long; body covered with small, hard, smooth, shining scales, and marked with black spots, round and angular, surrounded with a white circle.

Head large, depressed, short; teeth lanceolate, in many rows; cirri unequal, about $\frac{1}{4}$ an inch long, here and there branched, 1 before the nostrils; temporal orifice large; vent in the middle; first dorsal fin opposite the vent; tail subdivided.

Tigrinus. Tail elongated; 2 hindmost spiracles confluent.

Inhabits the *Indian* ocean; 15 feet long; body thick, oblong, black, with irregular white spots and bands; feeds on testaceous animals and crabs.

Head

Head broad, flat and sloping on the fore-part: *mouth* transverse, with 2 cirri; upper *lip* thick, prominent; *teeth* minute, those in the upper jaw moveable, and rough like a rasp; *tongue* thick, short; *eyes* small, oblong, pupil blue, iris black; *belly* broad; *pectoral* fins short, broad; first *dorsal* opposite the ventral, second the anal; *tail* compressed each side, thin like a leaf at the end, the fin long and notched at the tip.

Africanus. Body with 7 parallel, longitudinal, blackish bands above.

Inhabits the *African* ocean; $2\frac{1}{2}$ feet long; body covered with minute subquadrate scales, above glaucous, beneath whitish.

Head a little broader than the body, depressed; *eyes* oblong, iris greenish; *temporal orifice* thrice as small as the eyes; *mouth* semicircular; *teeth* compressed, long, acute, the upper in transverse, lower in oblique rows; *palate* and *tongue* with a few soft tubercles; at the *nostrils* are 2 lobes, one of which is larger and nearly closes them; *pectoral* fins horizontal; *ventral* nearly triangular, oblique at the tip; *anal* oblong, rounded on the fore-part, pointed behind; first *dorsal* behind the middle of the back, second opposite the hind-part of the anal; *tail* rounded, or rather cut obliquely.

Ocellatus. Each side the neck a large round black blotch, surrounded with white.

Inhabits the *Pacific* ocean and *New Holland*: $2\frac{1}{2}$ feet long; body long, cinereous, dotted, beneath greenish-ash.

Head short, without spots; *eyes* small, oblong; *temporal orifice* oblong; *teeth* numerous, small, compressed, sharp, dilated at the base; *nostrils* near the end of the snout, nearly closed by a small flap; 2 hinder *spiracles* approximate; *pectoral* and *ventral* fins rounded, blackish, cinereous at the edge, the latter placed before the middle of the body; first *dorsal* fin behind the anal, notched behind, and marked on the anterior edge with 2 black spots, the other a little less; *anal* near the notched tail.

Zygana. *Head* very broad, hammer-shaped.

Inhabits the *Mediterranean*, *American* and *Indian* seas; grows to 6 feet long, and to the weight of 500 pounds; is the most rapacious of all its tribe; brings 10—12 young at one birth.

Head

Head lengthened out on each side like a hammer, convex above and below; *eyes* placed at the extremities of the widened head, prominent and directed downwards; near the edge of the head beneath are placed the oblong nostrils, covered with a membrane; *mouth* arched, near the commencement of the trunk; *teeth* broad, pointed, serrate each side, in 3—4 rows in both jaws; *tongue* thick broad, resembling that in the human head; *body* elongated, round, tapering; *fins* lunate at the edge, cinereous, black at the base; *ventral* distinct; *anal* and hinder *dorsal* small; anterior *dorsal* large, near the head; *tail* long.

Tiburio. Head very broad, heart-shaped.

Inhabits the *South American* seas; very much resembles the last, except that the head, instead of being widened each side into a long process, is rather subtriangular and rounded off in front; fins glaucous.

Griscus. Spiracles 6 each side.

Inhabits the *Mediterranean*; $2\frac{1}{2}$ feet long; body mouse-colour, a little rough; in the dried skin there is the appearance of small scales, with an elevated line in the middle.

Head depressed, obtuse; *mouth* large, arched; lower jaw with many rows of large, compressed, subquadrate, serrate teeth, upper jaw at the sides with a single row, on the fore-part the teeth are long, sharp, not serrate, narrower, longer and sharper than those on the sides; *nostrils* near the end of the snout, and nearly covered with a flap; *spiracles* large, approximate; *lateral line* defaced; *dorsal* fin single, before the anal, and a little larger; *pectoral* horizontal; *ventral* semioval; *anal* small, obtuse on the fore-part, pointed behind.

Pulpes. Upper lobe of the tail as long as the body.

Sea-fox. Long-tailed S.

Inhabits the *Mediterranean* sea, and often wanders on the *British* coasts: 7 feet long; body above blueish-ash, beneath paler; scales very minute; is exceedingly voracious.

Head conic, short; *eyes* large; jaws with 3 rows of triangular, compressed, sharp teeth, not serrate; *tongue* obtuse; *lateral line* straight; first *dorsal* fin in the middle of the back, at the end of which is a triangular hollow; the other opposite the anal, and somewhat 2-lobed; *ventral* very near each other; *anal* pointed; lower lobe of the tail hardly a foot long, the upper falcate and 6 times as long.

Longi.

Longicaudus. Upper jaw with 2 cirri; tail long.
Head obtuse; nostrils near the mouth; spiracles 4.

Appendiculatus. Upper jaw with 2 jagged, cartilaginous appendages, and 4 others each side between the first and the spiracles.

Botany-Bay S.

Inhabits *New South Wales*; 19 inches long; body brown, with 3 rows of large pale spots, dark within; rounded and nearly equal for half its length, and then growing suddenly small; is very fierce. PHILLIPS *Botany Bay*.

Head broad, angular; mouth near the end of the head; teeth 9 in front, sharp, crooked, in 3 rows, with a great number of small ones each side; eyes projecting; dorsal fins placed far back; pectoral near the spiracles; ventral near the middle of the body; anal more than half way between the last and the tail, with a fin-like projection behind it to the end of the tail.

B. *With the anal fin, but no temporal orifice.*

* *Glaucus*. Sides of the tail smooth; lower part of the back with a triangular dent. *Blue S.*

Inhabits almost every sea: 3—14 feet long; body above fine blue, beneath silvery-white; is very fierce and rapacious, especially in warm climates.

Head a little depressed; eyes small, roundish, iris yellowish-white; teeth nearly triangular, long, sharp, not serrate, inclining downwards and backwards; vent near the tail; dorsal fins glaucous, the first behind the ventral and nearly triangular, the other less, behind and equal to the anal which is white; pectoral large, long, emarginate, and with the ventral above glaucous, beneath white; tail glaucous, 2-lobed, the upper lobe 3 times as long as the lower.

* *Cornubicus*. Snout projecting, sharp; body round, depressed and angulate near the tail. *Probeagle S.*

Inhabits the *British* coasts: 2½—4 feet long; body above deep blue, beneath white or silvery, round, except near the tail, where it is depressed.

Each side from the nose to the eyes numerous minute pores; eyes large, pupil black, iris white; spiracles 5, placed in a regular series; nostrils lunar; mouth semicircular; upper jaw with 2 rows of teeth, the 2 middle ones in front standing single, lower jaw with 2 rows, the middle ones in front with a triple

triple row, the inner row bent inwards, the others turned outwards; *teeth* white, sharp, smooth, 2-edged, with an acute process at the base on either side; *tongue* white, short, cartilaginous; *fins* blueish before, whitish behind; first *dorsal* fin opposite the pectoral, about 15 inches from the point of the nose, second equal to and nearly opposite the anal, 12 inches behind the first; *pectoral* and *ventral* semilunar behind; between the *ventral* fins a longitudinal aperture; *tail* lunar, vertical, the upper lobe nearly a third longer than the lower, with a lunar fossule near it, the points towards the tail.

* *Cambri-* Snout short, blunt; body cylindrical, angulate near the
cus. tail. *Beaumauris* S.

Inhabits the *British* coasts: 7 feet long; very much resembles the last, except that it does not taper so much towards each end; body lead-colour, smoothish.

Nostrils small; *jaws* with 3 rows of slender, sharp teeth, flattened each side, furnished at the base with 2 sharp processes, and may be raised or depressed at pleasure; first *dorsal* fin nearer the head than the tail, triangular, second very small, placed near the tail; *pectoral* strong, large; *ventral* and *anal* small; *tail* slightly lunar, the horns unequal; space between the second dorsal fin and tail much depressed, the sides forming an acute angle, with a transverse fossule above and below.

Cinereus. Spiracles 7 each side.

Inhabits the *Mediterranean*: 3 feet long; body glaucous, a little rough.

Eyes large, placed at equal distances between the tip of the snout and first spiracle; *teeth* compressed, sharp, separate, a little recumbent at the side, turned downwards and backwards; *spiracles* large; *lateral line* distinct; *vent* a little before the middle of the body; *dorsal* fin single, in the middle of the body, larger than the anal; *pectoral* placed behind the last spiracle; *tail* 2-lobed.

* *Maximus* Teeth conic, not serrate.

Basking S.

Inhabits the *Arctic* and *European* seas, and grows to a prodigious size; feeds on the smaller cetaceous animals, which it swallows whole; migrates and appears at certain times in great shoals; is fond of lying near the surface of the water for the sake of warming itself by the sun; the liver is very large, and produces a large quantity of pure oil; is not very fierce.

Upper

Upper jaw much longer than the other and blunt at the end ; near the *throat* a short sort of whale-bone ; first *dorsal* fin very large, nearer the head ; *ventral* opposite the second dorsal and very small ; *tail* large, upper part much longer than the lower ; *colour* above deep leaden ; belly white.

Carcharias.

Teeth triangular, serrate.

White S.

Inhabits the deeps of almost every sea ; is the most dreadful and voracious of all animals ; preys on every thing which comes in its way, even its own tribe, and has been known to swallow a man whole ; grows sometime to 30 feet long ; body light cinereous.

Head depressed, broad and thin on the fore-part, and ending in a short point ; eyes lateral, small, roundish, and furnished with a white cartilaginous nictitant membrane ; *iris* pale cinereous ; *nostrils* double, half covered with a membrane ; *mouth* very large, and furnished with about 6 rows of teeth ; *tongue* thick, short, broad, cartilaginous ; *fins* brownish, in the young fish with a blackish spot at the angle ; *pectoral* vastly large ; first *dorsal* before the middle of the body, rounded on the upper part, the second before the anal, and placed midway between the ventral and tail ; *ventral* small ; *tail* long, 2-lobed.

C. With temporal orifice, but no anal fin.

Spinosus.

Body covered over with large mucronate tubercles.

Inhabits the *Ocean* ; 4 feet long ; tubercles unequal, broad and rounded at the base, mucronate or bimucronate at the tip and a little recurved.

Eyes large ; *snout* prominent, conic ; *nostrils* placed before the eyes ; *teeth* nearly square, compressed, angulate at the edge, in many rows ; *spiracles* 5 : *dorsal* fins near the tail, the first a little larger ; *pectoral* large ; *tail* angular.

Acanthias

Dorsal fins spinous ; body roundish.

Picked Dog-fish.

2. Body ocellate.

Inhabits most seas ; about $3\frac{1}{2}$ feet long ; body above blackish, dotted sparingly with white, the sides white, inclining to violet, with a few angulate transverse furrows, beneath white ; the flesh is often salted and eaten.

Head compressed, wedged, thin on the fore-part, obtuse petioid; *eyes* lateral, oblong, iris blueish-white; near the *temporal orifice* are 4 rows of moist pores; *nostrils* double, midway between the end of the snout and *mouth* which is transverse; *teeth* small, in 2 or 3 rows; *belly* broad, long; *lateral line* straight; *fins* blackish; first ray of each *dorsal fin* spinous, white, triangular, and said to be poisonous, recurved at the tip, $2\frac{1}{2}$ inches long; *tail* finned for a considerable length up, the upper lobe longer.

Jacksonii. *Eyes* with a prominence over them each side; before each of the dorsal fins a strong spine.

Inhabits *Port Jackson*; 2 feet long; body tapering; skin rough, above brown, beneath paler.

PHILLIPS *Bot. Bay*, page 283.

Head somewhat convex; *teeth* numerous, in many rows, large as they are placed backwards, forming a bony plate; upper part of the *tail* lower.

Spinax. Body beneath blackish.

Inhabits the *Ocean*, and in its spinous back-fins very much resembles the last.

Squamofus. Body coated with small oblong scales.

Body 3 feet long, thick, round, resembling the next, except in having a longitudinal elevated line of scales down the middle.

Eyes oblong, placed above the mouth and before the temporal orifice; *snout* oblong, depressed; *nostrils* large, partly covered with a membranaceous lobe; *mouth* arched; *teeth* nearly square, angular at the edge, the lower ones larger; *dorsal fins* oblong, covering nearly the whole of the back, the middle ray spinous, the anterior one larger, narrowed behind, the next behind the ventral; *pectoral* narrowed towards the base; *ventral* semioval, near the tail, which is rounded on the fore-part and dilated towards the end.

Centrina. Body nearly triangular.

Inhabits the *Mediterranean*; 3—4 feet long; body above brown, carinate, beneath whitish, broad; skin covered with hard, erect tubercles; flesh very hard.

Head small, flat, obtuse at the end; *eyes* oblong, half covered, iris yellowish; *mouth* beneath narrow; upper *jaw* with 3 rows of sharp teeth, lower with one; *tail* short, compressed each side; *dorsal* fins large, the middle ray spinous, the second opposite the ventral; *pectoral* and *ventral* double.

indicus. Back variegated, unarmed; teeth acute.
Inhabits the *Indian Ocean*.

americanus. Dorsal fins unarmed, the hinder one larger; ventral large, near the tail.

Inhabits *South America*; 3 feet long; body round; scales small, angular.

Head large; *snout* short, obtuse; *teeth* oblong, acute, compressed, in many rows, the largest serrate at the edge; *nostrils* large, placed in front; *eyes* large; *temporal orifice* distant from the eyes; *spiracles* 5, small, the 2 hinder ones approximate; first *dorsal* fin nearer the head, the second a little behind the anal; *pectoral* suboval; *tail* lanceolate.

**Squatina*. Pectoral fins very large, notched on the fore-part.

Angel Fish.

Inhabits the *Northern* seas; 6—8 feet long; feeds on lesser fish, and brings as far as 13 young at a time; body above cinereous, rough, with small recurved prickles, beneath smooth, white; in its shape approaches very near to the Ray tribe.

Head flat, circular, broader than the trunk; *mouth* broad; *jaws* protrusile, armed with numerous rows of sharp teeth; *tongue* broad, thin, smooth, pointed; *nostrils* placed at the anterior edge of the jaws, covered with a membrane, and terminated on the fore-part with 2 cirri; *eyes* small, pupil sea-green, iris yellow; *temporal orifice* semilunar; *spiracles* 5, semilunar; *belly* long and broad; *vent* oblong; *dorsal* fins 2, near the tail; *ventral* oblong, white; *pectoral* above white, beneath edged with brown; *tail* perpendicular, a little forked.

D. *Without teeth.*

Massasa. Pectoral fins long.
Inhabits the *Red Sea*.

Kumal. Pectoral fins short; mouth with 4 cirri.
Inhabits the *Red Sea*.

69. **PRISTIS.** *Snout* long, flat, spinous down the edges : *spiracles* 4-5, lateral : *body* oblong, roundish, covered with a rough, coriaceous skin : *mouth* beneath : *nostrils* before the mouth, half covered with a membranaceous flap : behind the *eyes* 2 oval orifices : *ventral* fins approximate : *anal* 0.
Saw-fish.

Antiquorum.

Snout with 18—24 strong spines each side.

Inhabits the *Ocean* ; 15 feet long ; body above blackish, beneath whitish. *Linn. Transf.* ii. 276.

Head flat on the fore-part ; *snout* 5 feet long ; *teeth* granulate ; *eyes* large, *iris* golden ; *spiracles* 5 ; first *dorsal* fin opposite the ventral, second midway between the first and the tail ; *pectoral* broad, long ; *caudal* short.

Pectinatus **Snout** with 25—34 narrower spines each side.

Inhabits the *Ocean* ; resembles the last, but the snout is slenderer and narrower at the base ; spines longer, slenderer.

Linn. Transf. ii. 278.

Cuspidatus **Snout** with 28 broad cuspidate spines each side.

Habitation uncertain ; a specimen of the snout is preserved in the *Leverian Museum* ; spines sharp at the point like a surgeon's lancet.

Microdon. **Spines** on the snout small, hardly perforating the skin.

Habitation unknown ; a complete specimen is in the *Leverian Museum* ; 28 inches long ; *snout* 10 inches long ; *dorsal* fins much hollowed out at the back-part.

Cirratus. **Snout** cirrate in the middle ; spines long, with intermediate shorter ones.

Inhabits

Inhabits *New Holland*; about 40 inches long; body pale brown. *Linn. Transf.* ii. 281. tab. 27.

Snout with about 20 longer sharp and somewhat incurved spines, the shorter ones between each 3—6; about the middle of the snout, each side, near the edge, a flexible appendage, $3\frac{1}{2}$ inches long, resembling the beards of the cod-fish; *spiracles* 4; *mouth* with 5 rows of minute, sharp teeth; *tail* lanceolate.

70. RAIA. *Spiracles* 5 each side, oblique, placed beneath near the neck: *head* small, pointed, not distinct from the body: *mouth* beneath, transverse, toothed: *body* broad, thin, flat.

Ray.

These are inhabitants of the sea only; keep at the bottom, and in winter cover themselves with sand or mud; they feed on testaceous animals, fish, or any animal substances they meet with; grow to a large size, sometimes exceeding 200 pounds weight; the females are the larger, and produce their young alive, only one at a time, which like the shark tribe are inclosed in a quadrangular, black, horny shell, the corners of which end in slender incurved points, but not extending into long filaments like those of the shark; *eyes* half covered with a thin membrane, oblong, placed on the upper part of the head; above these in the place of *nostrils* is a broad sulcus or groove, divided by a reticulate membrane, consisting of crested folds, and closed with a valve; behind this sulcus are 2 semilunar orifices; *tongue* very broad, short smooth; *ventral* fins covered with a thick skin, and surrounding the body; *ventral* at the base connected with the anal; *flesh* generally eatable; *liver* large and producing a great quantity of pure oil.

A. Teeth sharp.

Torpedo. Body entirely smooth, flat.

Electric R.

Inhabits

Inhabits the northern *European* seas and the *Mediterranean*; about 20 pounds weight; body above varying in colour, sometimes with 5 round, black spots each side, beneath white, with moist pores at the edge of the back; is endowed with a strong electric power, and able to give a very smart smart benumbing shock, which is communicated even through a stick; flesh soft.

Eyes very small; teeth small; body orbicular; dorsal fins 2, near the tail; tail small, long, carinate each side, the fin cut off obliquely.

• *Batis*. Varied; middle of the back smooth; tail with a single row of spines. *Skate*.

Inhabits the *European* ocean, and is the largest of its tribe; body above cinereous, sometimes with a few black lines, beneath white, with waved lines of black dots; round the eyes are numerous small, hooked spines; in the males the fins are full of spines.

Head pointed; iris semilunar, yellow, edged with white; jaws crowded with teeth; ventral and anal fins each 6-rayed; tail pointed, with 2 fins.

• *Oxyrinchus*. Varied; middle of the back with 10 spinous tubercles. *Sharp-nosed R.*

Inhabits the *European* and *Mediterranean* seas; 7 feet long; body very thin, above cinereous, with a few white or darker spots, beneath white; round each eye are 3 spines, and numerous other soft ones over the whole body; back, besides the row of spines, often with 2 larger ones; tail and fins blackish-red.

Head pointed; jaws crowded with teeth; tail fringed with a small membranaceous fins, and in the male often armed with a row of spines each side.

Miraletus. Back and belly smooth; spines near the eyes, and a triple row of them on the tail.

Inhabits the *Mediterranean*; body above and each wing with an ocellate spot.

• *Fullonica*. Back covered with spines; eyes with a single row, pectoral fins and tail with a triple row. *Fuller R.*

Inhabits

Inhabits the *European* seas; grows to a large size; body above cinereous, with numerous black spots, beneath white. Snout short, pointed; *nictitant* membrane fringed; teeth small, sharp; tail slender.

Rubus. Back with a single, tail with a triple row of spines.

Rough R.

Inhabits *Europe*: besides the row of spines on the back are 4 others, 6 round the eyes and 2 larger at the nostrils with lesser ones round them; at the dorsal fins are numerous lesser spines, beneath 10 larger, and the whole surface beset with innumerable tubercles; body above yellowish, spotted with brown, beneath white.

Eyes placed far back, pupil blueish, iris black; mouth wide; teeth numerous, wedged; ventral fins 3, anal 6-rayed, and near these, in the male, are 2 long appendages hanging down and resembling fins.

B. Teeth obtuse.

Sephen. Body nearly round; tail twice as long as the body, winged beneath, and with 2 long spines above, serrate each side.

Inhabits the *Red Sea*; is so large as sometimes to reach 3 yards across; body above brown, with 3 rows of large hemispherical tubercles down the middle of the back, beneath quite flat and smooth, reddish-white.

Eyes prominent; nostrils nearly longitudinal, nearly covered with a subcordate coriaceous flap; teeth granulate, quite flat; pectoral fins very broad, the hinder end rounded and covering the ventral; these are much less than surround the vent and are affixed to the origin of the tail, with conic coriaceous appendages (in the male); tail tuberculate above, gradually tapering behind the three spines, and rough with a longitudinal line of small prickles; membranaceous fin black, pendulous, oblong-lanceolate.

Aquila. Body smooth; pinnate tail with a long serrate spine.

Inhabits the *Mediterranean* and rarely *European* seas; grows to 300 pounds weight, and moves slowly; body livid, brownish towards the back, beneath white, at the sides inclining to olive, smooth, covered with a thick coriaceous skin and mucus; the liver is catable, and gives a large quantity of oil.

Head

Head ending in a short, obtuse point, with an oblong cavity above and beneath; *eyes* prominent, iris yellow; *nostrils* oblong, transverse, divided by a cartilaginous membrane; *lips* moveable; *mouth* full of teeth; *ventral fins* 0; *tail* longer than the body, ending in a bristle, the fin small, and armed with a pungent ferrate spine, sometimes abrupt or double.

• *Paflinaca* Body smooth, tail with a long sharp spine, ferrate on the fore-part, and another on the back. *String R.*

2. Body smooth; back with 2 spines, ferrate on the top-part.

3. Body covered with spots.

Inhabits the *European*, *Indian* and *Red* seas; hardly 3 feet long; body mucous, above brown, olive between the fins, beneath white.

Head short, sharp; *iris* white; *teeth* granulate; *ventral fins* 0; *tail* armed with a barbed spine whose wound causes considerable pain and inflammation, which is shed every year and renewed again, the new one appearing frequently before the old one is dropped off.

• *Clavata.* Body spinous; teeth tuberculate; across the belly a strong, semilunar cartilage. *Thornback.*

Inhabits most *European* seas, and grows to 12 feet long; above brownish with a few white spots, sometimes whitish with black spots; besides the club-shaped row of spines down the back and tail, there are larger and lesser ones sprinkled over the body, which when they fall off leave a white spot; beneath white with a few spines.

Head longish, pointed; *iris* semilunar, brown; *teeth* small, round; *tongue* short, broad, smooth; *tail* longer than the body, above convex, beneath flat, fringed with small fins near the end; *ventral fin* 3-rayed, *anal* 6.

Rinobatos Body long, tapering; snout lengthened.

Inhabits the *Mediterranean*, *Adriatic* and *Red* seas; body pale earthy brown; skin not rough. *Nat. Miscel. tab. 173.*

Snout much elongated, obtuse; extended processes or fins near the head broad and thin; *eyes* large; down the middle of the back a pale line, and a transverse one, forming a cross, near the head.

Djidda:

Diddensis. Tail-fin 2-lobed; spines in a triple row at the beginning of the back, and afterwards in a single one; first dorsal fin above the ventral.

Inhabits the *Red Sea*; 2 yards long; body a little rough, pale ash, above varied with whitish oval spots, beneath whitish, behind the vent are a few brown and white stripes.

Head triangular, very much depressed, obtuse, flat above; eyes vertical, iris white, edged with black, and surrounded with a row of spines; nostrils situate a little before the mouth, oblique, something curved, arched on the fore-part with an oval pendulous flap; teeth hemispheric-oval, contiguous; back elevated, more convex before the first fin, and afterwards gradually depressed; between each of the fins a single row of spines, ending behind the second; belly flat, long, convex behind the vent which is linear; anal fins 0; dorsal blueish, nearly triangular, rounded at the upper end, the first about the middle of the back, the second nearer the tail; pectoral obtusely triangular, spotted with white at the tip, and twice as large as the ventral which are of a similar shape, and inclose the vent at the base; caudal like the dorsal.

Lymna. Body oval, smooth, testaceous with blue spots; pinnate tail with a single spine.

Inhabits the *Red Sea*; hardly a foot long; spots oval, unequal, beneath whitish.

Eyes partly prominent; teeth granulate; pectoral fins pointed behind; ventral oval; tail a little longer than the body, a little depressed on the fore-part, without fin, beneath white, above brown-testaceous, with 2 longitudinal blue stripes; in the middle is a long broad spine which is sometimes double, surrounded with a blueish-brown skin, this spine is said to inflict a poisonous wound; behind the spine a little compressed, blueish, fringed on each side with a membrane, broader on the lower part, the tip white and pointed.

Arnak. Body orbicular, silvery; tail round, without fin, and furnished with 2 spines.

Inhabits the *Red Sea*.

Teeth granulate.

C. *Uncertain.**Ommes-
fcherit.*

Tail round, spotted.

Inhabits the *Red Sea*; resembles *R. pastinaca*.*Tajara.*

Tail round; body beneath snowy.

Inhabits the *Red Sea*: when just taken beats violently with its fins.*Schoukie.*

Body with a few remote spines.

Inhabits the *Red Sea*; of its skin the Arabians make scabbards for swords.*Mula.*

Beneath snowy; tail round, variegated.

Inhabits the *Red Sea*, and approaches the shores by night; the spine on its tail inflicts a dangerous wound.*Rapensis.*

Back with a single fin; tail short, pinnate at the end; body smooth, unarmed; snout a little obtuse.

Inhabits the *Cape of Good Hope*; is shaped something like the *Torpedo*, except that it has a fin on the back; body small, orbicular, above convex, beneath flat.*Ventral* fins large, horizontal, nearly square, the last ray strong rigid, obtuse; *anal* fin 0; *caudal* perpendicular, oval, short, surrounding the end of the tail.

71. PETROMYZON.

71. PETROMYZON. *Head* slenderer than the body: *mouth* longer above than beneath: *teeth* orange, hollow within and surrounded with a fleshy margin, above a little curved, beneath broad: *spiracles* 7, each side the neck: on the *nape* a fistulous opening: *pectoral* and *ventral* fins 0. *Lamprey.*

These adhere firmly to rocks and other bodies by the mouth, the edges of which are jagged; the body is eel-shaped, slippery and mucous; they live a long time out of the water, and feed on worms, insects, lesser fish and dead bodies; *belly* long, narrow; *vent* near the pinnate tail; *dorsal* fins 2; round the *eyes* are numerous perforations; *tongue* semilunar, hard; *teeth* serrate.

• *Marinus.* Mouth papillous within; second dorsal fin distinct from the tail. *True L.*

Inhabits most *European* seas, and *South America*: grows to 3 feet long; ascends rivers in the spring, and after a few months returns again to the sea; is very fertile and grows slowly; body dusky, irregularly marked with yellow or blueish; varies in colour; flesh good.

Head greenish-brown, oblong, as thick as the body, with sometimes a round white spot on the nape; *eyes* round, small, iris yellow, spotted with black; *mouth* oblong; *teeth* cartilaginous, conic, in 12—20 horizontal longitudinal arched rows; first and last *spiracles* less than the others; *dorsal* fins reddish-yellow, or orange-brown, the second larger than the first; *tail* blueish.

• *Fluviatilis.* Second dorsal fin angulate. *Lesser L.*

Inhabits *Europe*, *Japan* and the lakes of *South America*: 12—15 inches long; ascends like the last; body varied with transverse waved lines, above blackish, yellowish at the sides, and whitish beneath.

Head greenish; behind the row of lesser *teeth* are larger ones, above 7 connected, beneath 2 distant; *eyes* small, iris golden; towards the head is the appearance of a *lateral line*: fins violet.

**Branchialis*. Second dorsal fin linear; mouth lobate.

Lampern. Pride.

Inhabits fresh-water rivers of *Europe*, particularly the *Isis* near *Oxford*; 6—7 inches long; conceals itself under stones or in the mud, and does not adhere to stones like the others; body round, tapering to each end, annulate, above greenish, yellowish at the sides, beneath white.

Mouth without teeth; fins hardly a line broad; tail lanceolate, sharp at the end.

Planeri. Body annulate; mouth papillous.

Inhabits fresh-water rivers; body olive, thicker and longer than *P. branchialis*.

Behind the border of the mouth are numerous sharp papillae; teeth in a single row, with others close behind them; iris yellow; breast thicker than in others; fins tolerably broad; near the vent is a conic peduncle.

72. GASTROBRANCHUS. Mouth terminal, furnished with cirri: teeth in a double pectinate row each side; upper tooth single, sharp, in the roof of the mouth: body eel-shaped, carinate beneath by a soft fin: spiracles 2, ventral.

**Cacus*. Eyes o.

Hag-fish. Glutinous Hag.

Inhabits the *Ocean*; about 8 inches long; is said to enter the mouths of fishes when taken by the hook, and to devour the whole except the skin and bone; when placed in a vessel of sea-water, it soon renders it gelatinous, being of an uncommonly glutinous nature. This animal has been by later Naturalists judiciously removed from the class of Worms, where by LINNE it was ranked among the intestinal, and called *Myxine Glutinosus*.

INDEX.

	PAGE.		PAGE.
ABDOMINAL	<u>701.</u> <u>836</u>	Anguis	<u>639.</u> <u>696</u>
ACCIPITRES	<u>132.</u> <u>138</u>	Ani	<u>216</u>
cipenser	<u>705.</u> <u>911</u>	ANSERES	<u>132.</u> <u>312</u>
crochordus	<u>639.</u> <u>700</u>	Ant-eater	<u>29</u>
lauda	<u>137.</u> <u>481</u>	Antelope	<u>111</u>
lbatores	<u>345</u>	Antilope	<u>38.</u> <u>111</u>
lca	<u>135.</u> <u>336</u>	Ape	<u>10</u>
lcedo	<u>135.</u> <u>275</u>	APODAL	<u>701.</u> <u>706</u>
lligator	<u>656</u>	Aptenodytes	<u>135.</u> <u>339</u>
maduvade	<u>555</u>	Arctomys	<u>8.</u> <u>88</u>
mia	<u>704.</u> <u>838</u>	Ardea	<u>135.</u> <u>371</u>
mmodytes	<u>703.</u> <u>714</u>	Argentina	<u>704.</u> <u>863</u>
mpelis	<u>137.</u> <u>511</u>	Argentine	<u>863</u>
MPHIBIA	<u>4.</u> <u>638</u>	Armadillo	<u>33</u>
mphibæna	<u>639.</u> <u>699</u>	Asp	<u>680</u>
narhichas	<u>703.</u> <u>712</u>	Asfs	<u>112</u>
nas	<u>135.</u> <u>312</u>	Atherina	<u>704.</u> <u>864</u>
nchovy	<u>869</u>	Atherine	<u>864</u>
ngel-fish	<u>923</u>	Auk	<u>336</u>
ngler	<u>908</u>	Avocet	<u>418</u>

B. Baas

PAGE.

PAGE.

B.		PAGE.
<i>Baas</i>	-	<u>121</u>
<i>Baboon</i>	-	<u>11</u>
<i>Babyrussa</i>	-	<u>126</u>
<i>Badger</i>	-	<u>63</u>
<i>Balæna</i>	-	<u>8. 127</u>
<i>Balistes</i>	-	<u>705. 898</u>
<i>Ballan</i>	-	<u>797</u>
<i>Bantam Cock</i>	-	<u>445</u>
<i>Barbel</i>	-	<u>873</u>
<i>Barbet</i>	-	<u>42. 246</u>
<i>Basilisk</i>	-	<u>659</u>
<i>Basse</i>	-	<u>810</u>
<i>Bastard Plover</i>	-	<u>402</u>
<i>Bat</i>	-	<u>24</u>
<i>Bear</i>	-	<u>62</u>
<i>Beaver</i>	-	<u>78</u>
<i>Beaver-rat</i>	-	<u>79</u>
<i>Bee-eater</i>	-	<u>284</u>
<i>BELLUÆ</i>	-	<u>6. 122</u>
<i>Bernacle</i>	-	<u>318</u>
<i>Bib</i>	-	<u>726</u>
<i>Bird of Paradise</i>	-	<u>242</u>
<i>BIRDS</i>	-	<u>4. 131</u>
<i>Bison</i>	-	<u>119</u>
<i>Bittern</i>	-	<u>381. 387</u>
<i>Black-bird</i>	-	<u>508</u>
<i>Black-cap</i>	-	<u>596</u>
<i>Black-fish</i>	-	<u>819</u>
<i>Black-game</i>	-	<u>452</u>
<i>Bleak</i>	-	<u>884</u>
<i>Blennius</i>	-	<u>703. 732</u>
<i>Blenny</i>	-	<u>732</u>
<i>Blind-worm</i>	-	<u>697</u>
<i>Boa</i>	-	<u>639. 673</u>
<i>Boat-bill</i>	-	<u>370</u>
<i>Bonafus</i>	-	<u>119</u>
<i>Booby</i>	-	<u>351</u>
<i>Bos</i>	-	<u>8. 119</u>
<i>Bradypus</i>	-	<u>7. 28</u>
<i>Brambling</i>	-	<u>552</u>

BRANCHIOSTEGOUS		PAGE.
<i>Bream</i>	-	<u>701. 887</u>
<i>BRUTA</i>	-	<u>885</u>
<i>Bucco</i>	-	<u>5. 28</u>
<i>Buceros</i>	-	<u>134. 246</u>
<i>Buffalo</i>	-	<u>135. 213</u>
<i>Bull-dog</i>	-	<u>120</u>
<i>Bull-finch</i>	-	<u>41</u>
<i>Bull-head</i>	-	<u>516</u>
<i>Bull-trout</i>	-	<u>752</u>
<i>Bunting</i>	-	<u>846</u>
<i>Buphaga</i>	-	<u>530</u>
<i>Burbot</i>	-	<u>134. 216</u>
<i>Bustard</i>	-	<u>730</u>
<i>Butcher-bird</i>	-	<u>436</u>
<i>Buzzard</i>	-	<u>175</u>
<i>Buzzardet</i>	-	<u>149. 151</u>
	-	<u>152</u>

C.

<i>Cachalot</i>	-	<u>128</u>
<i>Cæcilia</i>	-	<u>639. 699</u>
<i>Callionymus</i>	-	<u>703. 720</u>
<i>Camel</i>	-	<u>105</u>
<i>Cameleopard.</i>	-	<u>111</u>
<i>Camelopardalis</i>	-	<u>110</u>
<i>Camelus</i>	-	<u>8. 105</u>
<i>Canary bird</i>	-	<u>559</u>
<i>Cancroma</i>	-	<u>136. 370</u>
<i>Canis</i>	-	<u>7. 41</u>
<i>Capra</i>	-	<u>8. 116</u>
<i>Capricorn</i>	-	<u>116</u>
<i>Caprimulgus</i>	-	<u>136. 633</u>
<i>Carp</i>	-	<u>872</u>
<i>Cassowary</i>	-	<u>439</u>
<i>Castor</i>	-	<u>7. 78</u>
<i>Cat</i>	-	<u>49</u>
<i>Cavia</i>	-	<u>7. 76</u>
<i>Cavy</i>	-	<u>76. 79</u>
<i>Centriscus</i>	-	<u>705. 897</u>
<i>Centrogaster</i>	-	<u>704. 829</u>
<i>Cepola</i>	-	<u>703. 739</u>
<i>Certhia</i>	-	

INDEX.

935

	PAGE.		PAGE.
Certhia	<u>134.</u> 291	Crax	<u>136.</u> 444
Cervus	<u>8.</u> 108	Creeper	291
CETE	<u>6.</u> 127	Crocodile	<u>655</u>
Chætodon	<u>704.</u> 768	Crossbill	515
Chaffinch	552	Crotalus	<u>639.</u> 672
Chamæleon	<u>663</u>	Crotophaga	<u>134.</u> 216
Chamois	III	Crow	217
Charadrius	<u>136.</u> 411	Crucian	<u>876</u>
Charr	<u>848</u>	Cuculus	<u>134.</u> 250
Chatterer	<u>511</u>	Cuckow	250
Chimæra	705. 913	Curassow	443. 444
CHONDROPTERIGIOUS	<u>701.</u> 911	Curlew	<u>392</u>
Chub	<u>876</u>	Curwillet	<u>415</u>
Civet	54	Cyclopterus	<u>705.</u> 904
Clupea	<u>704.</u> 868	Cyprinus	<u>704.</u> 872
Coal-fish	729		
Cobitis	<u>704.</u> 836	D.	
Cock	445	Dab	763
Cockatoo	195	Dace	<u>880</u>
Cod-fish	<u>725</u>	Darking Cock	<u>445</u>
Cole-mouse	<u>623</u>	Darter	<u>351</u>
Colius	<u>136.</u> 514	Dasytus	.7. 33.
Coluber	<u>639.</u> 674	Deer	<u>108</u>
Columba	<u>137.</u> 466	Delphinus	<u>8.</u> 129
Coly	<u>514</u>	Didelphis	<u>7.</u> 65
Colymbus	<u>135.</u> 353	Didus	<u>136.</u> 440
Comber	<u>803</u>	Diodon	<u>705.</u> 892
Condur	<u>138</u>	Diomedea	<u>135.</u> 345
Conger	707	Dipus	<u>8.</u> 98.
Cook	<u>803</u>	Diver	<u>316.</u> 355
Coot	<u>424</u>	Dodo	<u>440</u>
Coracias	<u>134.</u> 226	Dog	<u>41</u>
Corrira	<u>135.</u> 392	Dog-fish	<u>915</u>
Corvorant	<u>348.</u> 351	Dolphin	<u>129</u>
Corvus.	<u>134.</u> 217	Dorée	<u>760</u>
Coryne	<u>113</u>	Dormouse	<u>97</u>
Coryphæna	703. <u>741</u>	Dottrel	<u>404.</u> 413
Cottus	703. 752	Dove	<u>466</u>
Courier	392	Draco	<u>639.</u> 655
Crake	<u>429.</u> 488	Dragon	<u>655</u>
Crane	<u>348.</u> 372		

Dragonet

	PAGE.		PAGE.
<i>Dragonet</i>	<u>720</u>	<i>Flounder</i>	763
<i>Duck</i>	<u>315</u>	<i>Fly-catcher</i>	570
<i>Dun-diver</i>	<u>335</u>	<i>Flying-dragon</i>	665
		<i>Flying-fish</i>	866
		<i>Fox</i>	49
E.		<i>Fringilla</i>	136. 551
<i>Eagle</i>	<u>142</u>	<i>Frog</i>	652
<i>Echineis</i>	703. <u>743</u>	<i>Frog-fish</i>	908
<i>Eel</i>	706	<i>Fulica</i>	136. 421
<i>Eft</i>	<u>664</u>		
<i>Egret</i>	15. <u>376</u>	G.	
<i>Electrical eel</i>	<u>709</u>		
<i>Eliphant</i>	<u>35</u>	<i>Gadus</i>	703. 719
<i>Elephas</i>	7. <u>35</u>	<i>Gadwall</i>	322
<i>Elk</i>	<u>108</u>	<i>Galbula</i>	134. 283
<i>Elops</i>	704. <u>862</u>	GALLINÆ	132. 430
<i>Emberiza</i>	136. <u>530</u>	<i>Gallinule</i>	421. 430
<i>Emeu</i>	<u>439</u>	<i>Gambet</i>	403
<i>Equus</i>	8. <u>122</u>	<i>Gannet</i>	350
<i>Erinaceus</i>	7. <u>72</u>	<i>Garganey</i>	328
<i>Ermine</i>	<u>61</u>	<i>Gar-fish</i>	859
<i>Esox</i>	704. <u>859</u>	<i>Gasterosteus</i>	704. 821
<i>Exocætus</i>	704. <u>866</u>	<i>Gastrobranchus</i>	705. 932
		<i>Gattorugine</i>	733
F.		<i>Gazelle</i>	114
<i>Falco</i>	134. <u>142</u>	<i>Gennet</i>	54
<i>Falcon</i>	<u>151</u>	<i>Gilt-head</i>	783
<i>Father lasher</i>	<u>753</u>	<i>Glareola</i>	136. 419
<i>Felis</i>	7. <u>46</u>	<i>Glaucopis.</i>	134. 217
FERÆ	5. <u>48</u>	GLIRES	5. 75
<i>Ferret</i>	<u>60</u>	<i>Glutton</i>	64
<i>Fieldfare</i>	<u>490</u>	<i>Gnu</i>	114
<i>Fig-eater</i>	<u>588</u>	<i>Goat</i>	116
<i>Finch</i>	<u>551</u>	<i>Goat-sucker</i>	633
<i>Fin-fish</i>	<u>128</u>	<i>Gobius</i>	703. 745
<i>Finscale</i>	<u>882</u>	<i>Goby</i>	745
FISHES	5. <u>701</u>	<i>Godwit</i>	400
<i>Fishing-frog</i>	<u>908</u>	<i>Golden eye</i>	325
<i>Fistularia</i>	704. <u>858</u>	<i>Gold-finch</i>	553
<i>Fitchet</i>	<u>56</u>	<i>Gold-firny</i>	802
<i>Flamingo</i>	<u>367</u>	<i>Goosander</i>	334

Graft

937

Kingsfisher

		PAGE.		PAGE.
<i>Kingsfisher</i>	—	275	<i>Malbrouk</i>	— 13
<i>Kite</i>	—	<u>148</u>	MAMMALIA	— 4. 9
<i>Kittiwake</i>	—	350	<i>Man</i>	— 1. 9
<i>Knot</i>	—	<u>409</u>	<i>Manakin</i>	— 616
<i>Kurtus</i>	—	703. <u>737</u>	<i>Manis</i>	— 7. 32
L.			<i>Man of War bird</i>	— 345
<i>Labrus</i>	—	<u>704</u>	<i>Mansfenny</i>	— 149
<i>Lacerta</i>	—	<u>639. 655</u>	<i>Marmose</i>	— 60
<i>Lama</i>	—	<u>106</u>	<i>Marmot</i>	— 88
<i>Lampern</i>	—	<u>932</u>	<i>Martin</i>	— 59. 628
<i>Lamprey</i>	—	<u>931</u>	<i>Mastiff</i>	— 41
<i>Lanius</i>	—	<u>134. 173</u>	<i>Maucauco</i>	— 21
<i>Lapwing</i>	—	<u>402</u>	<i>Meleagris</i>	— 136. 442
<i>Lark</i>	—	<u>481</u>	<i>Merganser</i>	— 334
<i>Larus</i>	—	<u>135. 359</u>	<i>Mergus</i>	— 135. 334
<i>Lavaret</i>	—	852	<i>Merlin</i>	— 164
<i>Launce-fish</i>	—	<u>714</u>	<i>Merops</i>	— 135. 284
<i>Lemming</i>	—	<u>86</u>	<i>Miller's Thumb</i>	— 754
<i>Lemur</i>	—	<u>7. 21</u>	<i>Miuow</i>	— 880
<i>Leopard</i>	—	47	<i>Minx</i>	— 58
<i>Leptocephalus</i>	—	<u>703. 718</u>	<i>Mocking-bird</i>	— 493
<i>Lepus</i>	—	8. <u>100</u>	<i>Mole</i>	— 69
<i>Ling</i>	—	<u>730</u>	<i>Mole-rat</i>	— 87
<i>Linnet</i>	—	<u>561</u>	<i>Momotus</i>	— 135. 212
<i>Lizard</i>	—	<u>656</u>	<i>Mongooz</i>	— 21
<i>Loche</i>	—	<u>836</u>	<i>Monkey</i>	— 13
<i>Lonchiurus</i>	—	<u>704. 835</u>	<i>Monodon</i>	— 8. 117
<i>Loricaria</i>	—	<u>704. 845</u>	<i>Moor-cock</i>	— 454
<i>Loris</i>	—	<u>21</u>	<i>Moor-hen</i>	— 421
<i>Lory</i>	—	<u>197</u>	<i>Moose</i>	— 108
<i>Lophius</i>	—	<u>705. 908</u>	<i>Morillon</i>	— 325
<i>Lowando</i>	—	13	<i>Mormyrus</i>	— 705. 887
<i>Loxia</i>	—	<u>136. 515</u>	<i>Morris</i>	— 718
<i>Lurcher</i>	—	42	<i>Morse</i>	— 36
<i>Lynx</i>	—	50	<i>Morvant</i>	— 118
M.			<i>Moschus</i>	— 8. 106
<i>Maccaw</i>	—	<u>102</u>	<i>Motacilla</i>	— 137. 584
<i>Mackarel</i>	—	<u>824</u>	<i>Motmot</i>	— 212
<i>Magot</i>	—	11	<i>Mouse</i>	— 80
<i>Magpie</i>	—	<u>224</u>	<i>Moustache</i>	— 15
			<i>Mud-fish</i>	— 837
			<i>Mugil</i>	— 704. 865
			<i>Mule</i>	— 122
			<i>Mullet</i>	— 865
				Mullus

	PAGE.		PAGE.
Mullus	<u>704. 830</u>	Ouzel	<u>429</u>
Muræna	<u>703. 706</u>	Owl	<u>165</u>
Mus	<u>8. 79.</u>	Ox	<u>119</u>
Muscicapa	<u>137. 570</u>	Oyster-eatcher	<u>419</u>
Musk	<u>106</u>		
Musk-cavy	<u>79</u>	P.	
Musk-rat	<u>79</u>		
Mustela	<u>7. 56</u>	Palemedea	<u>135. 369</u>
Myæteria	<u>135. 369</u>	Panther	<u>47</u>
Myoxus	<u>8. 97</u>	Paradisca	<u>134. 242</u>
Myrmecophaga	<u>7. 29</u>	Parra	<u>136. 426</u>
N.		Parrakeet	<u>188</u>
Narval	<u>127</u>	Parrot	<u>182</u>
Natter jack	<u>649</u>	Partridge	<u>456</u>
Needle-fish	<u>894</u>	Parus	<u>136. 621</u>
Newt	<u>661</u>	PASSERES	<u>132. 466</u>
Nightingale	<u>584</u>	Pavo	<u>136. 441</u>
Noddy	<u>363</u>	Peacock	<u>441</u>
Numidia	<u>136. 449</u>	Pearl	<u>766</u>
Nutcracker	<u>222</u>	PECORA	<u>6. 105</u>
Nuthatch	<u>270</u>	Pegasus	<u>705. 896</u>
Q.		Pelecan	<u>346</u>
Old man of the woods	<u>18</u>	Pelecanus	<u>135. 346</u>
Old wife	<u>796</u>	Pekan	<u>59</u>
Opah	<u>760</u>	Penelope	<u>136. 443</u>
Ophidium	<u>703. 714</u>	Penguin	<u>336</u>
Opoffum	<u>65</u>	Perca	<u>704. 809</u>
Orang outang	<u>10</u>	Perch	<u>809</u>
Oriole	<u>231</u>	Petrel	<u>341</u>
Oriolus	<u>134. 231</u>	Petromyzon	<u>705. 931</u>
Ortolan	<u>532</u>	Pettychaps	<u>587</u>
Osprey	<u>144</u>	Pewit	<u>402</u>
Ostracion	<u>705. 888</u>	Phæton	<u>135. 352</u>
Ostrich	<u>438</u>	Phalanger	<u>67</u>
Otis	<u>136. 436</u>	Phalarope	<u>406</u>
Otter	<u>57</u>	Phasianus	<u>136. 445</u>
Ovis	<u>8. 117</u>	Pheasant	<u>445</u>
Ounce	<u>47</u>	Phoca	<u>7. 38.</u>
		Phœnicopterus	<u>135. 367</u>
		Physeter	<u>8. 128.</u>
		Phytotoma	<u>136. 569</u>
		PICÆ	<u>132. 182</u>
		Picus	

	PAGE.		PAGE.
Picus	<u>134. 260</u>	R.	
Pigeon	<u>466</u>	Rabbit	101
Pigmy	<u>11</u>	Raccoon	64
Pike	859	Raja	<u>705. 925</u>
Pilchard	<u>869</u>	Rail	329
Pilot-fish	<u>822</u>	Rallus	<u>136. 329</u>
Pintado	<u>449</u>	Ramphastos	<u>134. 209</u>
Pintail	<u>327</u>	Rana	<u>639. 647</u>
Piper	<u>832</u>	Rat	<u>83. 85</u>
Pipe-fish	893	Rattle-snake	67
Pipra	<u>136. 616</u>	Raven	<u>218</u>
Plaife	<u>763</u>	Ray	925
Platalea	<u>135. 368</u>	Razor-bill	337
Platypus	7. 30	Recurvirostra	<u>135. 418</u>
Pleuronectes	<u>703. 761</u>	Redbreast	<u>612</u>
Plotus	<u>135. 351</u>	Red Eye	882
Plover	<u>411</u>	Redpole	<u>561, 562</u>
Pochard	<u>327</u>	Redshank	398
Pogge	<u>752</u>	Redstart	609
Pointer	<u>42</u>	Redwing	<u>491</u>
Polecat	<u>60</u>	REPTILES	<u>639</u>
Pollach	729	Rhinoceros	7. 34
Polynemus	<u>704. 867</u>	Ring-ouzel	<u>508</u>
Pongo	<u>10</u>	Ring-tail	<u>159</u>
Poor	<u>727</u>	Roach	<u>881</u>
Porcupine	<u>75</u>	Robin Red-breast	<u>612</u>
Porpoise	<u>129</u>	Roikling	<u>731</u>
Pratincole	<u>420</u>	Rock-ouzel	<u>508</u>
Pride	<u>932</u>	Roe	<u>110</u>
PRIMATES	5. 9	Roller	<u>226</u>
Pristis	<u>705. 924</u>	Rud	882
Procellaria	<u>135. 341</u>	Ruffe	<u>818</u>
Plittacus	<u>134. 182</u>	Ruff and Reeve	402
Psophia	<u>136. 435</u>	Rynchops	<u>135. 366</u>
Ptarmigan	<u>452</u>		
Puffin	<u>337</u>		
Purre	<u>410</u>		
		S.	
		Sable	<u>59</u>
		Sagoin	<u>19</u>
		Salamander	<u>662</u>
		Salmo	<u>704. 845</u>
		Salmon	
Q.			
Quagga	<u>132</u>		
Quail	<u>459</u>		

INDEX.

941

	PAGE.		PAGE.
<i>Salmon</i>	<u>845</u>	<i>Sloth</i>	<u>28</u>
<i>Salmon-trout</i>	<u>846</u>	<i>Smear-dab</i>	<u>764</u>
<i>Sanderling</i>	<u>410. 415</u>	<i>Smelt</i>	<u>851</u>
<i>Sandpiper</i>	<u>402</u>	<i>Smew</i>	<u>335</u>
<i>Sapajou</i>	<u>18</u>	<i>Snake</i>	<u>696</u>
<i>Saury</i>	<u>862</u>	<i>Snipe</i>	<u>394. 397</u>
<i>Sawfish</i>	<u>924</u>	<i>Sole</i>	<u>764</u>
<i>Scad</i>	<u>828</u>	<i>Soree</i>	<u>431</u>
<i>Scarus</i>	<u>704</u>	<i>Sorex</i>	<u>7. 70</u>
<i>Sciæna</i>	<u>704. 803</u>	<i>Spaniel</i>	<u>41</u>
<i>Sciurus</i>	<u>8. 90</u>	<i>Sparrow</i>	<u>567</u>
<i>Scolopax</i>	<u>135. 392</u>	<i>Sparus</i>	<u>704. 783</u>
<i>Scomber</i>	<u>704. 824</u>	<i>Spoon-bill</i>	<u>368</u>
<i>Scopus</i>	<u>136. 371</u>	<i>Sprat</i>	<u>869</u>
<i>Scorpæna</i>	<u>703. 755</u>	<i>Squalus</i>	<u>705. 914</u>
<i>Screamer</i>	<u>369</u>	<i>Squirrel</i>	<u>9</u>
<i>Scythrops</i>	<u>134. 212</u>	<i>Squirrel fish</i>	<u>8. 19</u>
<i>Sea-fox</i>	<u>918</u>	<i>Stag</i>	<u>108</u>
<i>Seal</i>	<u>38</u>	<i>Stare</i>	<u>487</u>
<i>Sea monster</i>	<u>913</u>	<i>Starling</i>	<u>487</u>
<i>Sea-pie</i>	<u>419</u>	<i>Sterna</i>	<u>135. 362</u>
<i>Sea-serpent</i>	<u>706</u>	<i>Sternoptyx</i>	<u>703. 717</u>
SERPENTS	<u>672</u>	<i>Stickle-back</i>	<u>821</u>
<i>Sewen</i>	<u>846</u>	<i>Sting-bull</i>	<u>724</u>
<i>Shad</i>	<u>869</u>	<i>Sting-ray</i>	<u>928</u>
<i>Shag</i>	<u>348</u>	<i>Stint</i>	<u>410</u>
<i>Shark</i>	<u>914</u>	<i>Stoat</i>	<u>61</u>
<i>Sheath-bill</i>	<u>425</u>	<i>Stomateus</i>	<u>703. 715</u>
<i>Sheep</i>	<u>117</u>	<i>Stone-chat</i>	<u>596</u>
<i>Sheldrake</i>	<u>315</u>	<i>Stork</i>	<u>373</u>
<i>Shoveller</i>	<u>322</u>	<i>Strix</i>	<u>134. 165</u>
<i>Shrew</i>	<u>70</u>	<i>Struthio</i>	<u>136. 438</u>
<i>Shrike</i>	<u>173</u>	<i>Sturgeon</i>	<u>911</u>
<i>Silurus</i>	<u>704. 838</u>	<i>Sturnus</i>	<u>136. 487</u>
<i>Simia</i>	<u>7. 10</u>	<i>Stylephorus</i>	<u>703. 718</u>
<i>Siren</i>	<u>639. 671</u>	<i>Sucker</i>	<u>904</u>
<i>Siskin</i>	<u>560</u>	<i>Sucking-fish</i>	<u>740</u>
<i>Sitta</i>	<u>134. 270</u>	<i>Sukotyro</i>	<u>7. 35</u>
<i>Skate</i>	<u>926</u>	<i>Sun-fish</i>	<u>891. 892</u>
<i>Skimmer</i>	<u>366</u>	<i>Surmullet</i>	<u>830</u>
<i>Skip-jack</i>	<u>823</u>	<i>Sus</i>	<u>8. 125</u>
<i>Skunk</i>	<u>53</u>	<i>Swallow</i>	<u>627</u>
		<i>Swan</i>	

	PAGE.		PAGE.
Swan	312	Trichechus	7. 36
Swift	632	Trichiurus	703. 712
Sword-fish	716	Trigla	704. 831
Syngnathus	705. 893	Tringa	136. 402
T.		Trochilus	134. 302
Talpa	769	Trogon	134. 244
Tanager	544	Tropic-bird	352
Tanagra	137. 544	Trout	847
Tantalus	135. 388	Trumpeter	435
Tapir	8. 124	Tub-fish	833
Tarroc	350	Turbot	766
Teal	323. 328	Turdus	137. 490
Tench	874	Turkey	442
Tern	362	Turnspit	42
Testudo	639. 640	Turnstone	404
Tetrao	136. 450	Turtle	640
Tetrodon	705. 886	Turtle-dove	470. 477
Teuthis	704. 844	Twite	562
Thistle-finch	553	U.	
THORACIC	701. 739	Vaginalis	136. 425
Thornback	928	Vampire	21
Throstle	492	Vespertilio	4. 23
Thrush	490	Viper	674
Thunny	825	Viverra	7. 51
Tiger	47	Umbre	371
Tinamou	464	Upupa	134. 289
Titlark	481	Uranoscopus	703. 721
Titling	596	Ursus	7. 62
Titmouse	621	Vultur	134. 138
Toad	648	Vulture	138. 142
Tobaccopipe-fish	858	W.	
Todus	135. 273	Wag-tail	584
Tody	273	Walrus	36
Tope	916	Wanderu	17
Torpedo	925	Warbler	584
Torsk	725. 732	Water ouzel	488
Tortoise	640	Wattle-bird	217
Toucan	209	Weasel	52. 58
Trachinus	703. 724	Wolver	
Trachichthys	704. 820		

INDEX.

943

	PAGE.		PAGE:
<i>Wee-ver</i>	<u>724</u>	<i>Wren</i>	<u>613</u>
<i>Whale</i>	<u>127</u>	<i>Wryneck</i>	<u>259</u>
<i>Wheat-ear</i>	<u>594</u>		
<i>Whiff</i>	<u>767</u>	X.	
<i>Whimbrel</i>	<u>392. 394</u>		
<i>Whin-chat</i>	<u>594</u>	<i>Xyphias</i>	<u>703. 716</u>
<i>White-bait</i>	<u>885</u>		
<i>White nun</i>	<u>335</u>	Y.	
<i>White-throat</i>	<u>588</u>		
<i>Whiting</i>	<u>728</u>	<i>Yacou</i>	<u>443</u>
<i>Whiting-pout</i>	<u>726</u>	<i>Yellow-hammer</i>	<u>532</u>
<i>Wigeon</i>	<u>327</u>	<i>Yellow-shank</i>	<u>395</u>
<i>Wolf</i>	<u>43</u>	<i>Yunx</i>	<u>134. 259</u>
<i>Wolf-fish</i>	<u>712</u>		
<i>Wolverene</i>	<u>64</u>	Z.	
<i>Woodcock</i>	<u>396</u>		
<i>Wood-pecker</i>	<u>260</u>		
<i>Wood-wren</i>	<u>587. 614</u>	<i>Zabu</i>	<u>119</u>
<i>WORMS</i>	<u>4</u>	<i>Zebra</i>	<u>123</u>
<i>Wrasse</i>	<u>796</u>	<i>Zeus</i>	<u>703. 758</u>

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ERRATA.

- Page 1, l. 1, for *misteries* read *mysteries*.
Page 135, l. 16, for *Aptenodyta* read *Aptenodytes*.
Page 138, l. 47, for back *white* read back *black* : see *Leve-*
rian Museum, No. vi, page 6.
Page 641, l. 1, for *Imbriata* read *Imbricata*.
Page 643, l. 5, for *inches* read *lines*.
Page 703, l. 12, for *Stromateus* read *Stomateus*.
Page 703, l. 15, for *Callyonimus* read *Callionymus*.
Page 704, l. 7, for *Trachychthys* read *Trachichthys*.
Page 705, l. 11, for 66 read 65.
Page 826, l. 14, for *Locke* read *Loche*.
-

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